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In The

Supreme Court of the United States

OCTOBER TERM, 1997

BELOIT CORPORATION,

Petitioner,

vs.

VALMET PAPER MACHINERY, INC. AND VALMET, INC.,

Respondents.

ON PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR WRIT OF CERTIORARI

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QUESTIONS PRESENTED

1. Does the Seventh Amendment permit a United States Court of Appeals to employ the "clearly erroneous" standard of review to overturn a jury verdict contrary to the substantial evidence standard uniformly followed by this Court and all other United States Courts of Appeal?

2. When a district court has entered judgment on a jury's verdict after denying a motion pursuant to Rule 50(b)(1) Fed.R.Civ.P. for judgment as a matter of law, may a United States Court of Appeals *sub silentio* overturn the jury verdict without reviewing the underlying evidence and employ the "clearly erroneous" standard authorized by Rule 52(a) Fed.R.Civ.P. for review of facts found by the court rather than the "reasonable jury" standard of Rule 50(a) Fed.R.Civ.P.?

3. Under the Seventh Amendment, is a United States Court of Appeals free to ignore completely the underlying findings of fact made by two separate juries and approved twice by a district court, by not even mentioning them, when those findings of fact have been declared by this Court, in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1964) to be important to an ultimate legal finding of obviousness in a patent case?

PARTIES TO THE PROCEEDING BELOW

The names of all parties in the United States Court of Appeals for the Federal Circuit whose judgment is sought to be reviewed appear in the caption of this Petition for Writ of Certiorari.

PARENT COMPANIES AND NONWHOLLY OWNED SUBSIDIARIES OF PETITIONER BELOIT CORPORATION

Parent companies of Beloit Corporation are Harnischfeger Industries, Inc. and Mitsubishi Heavy Industries, Ltd. Subsidiaries of Beloit Corporation that are not wholly owned by Beloit and its parent companies are U.T.E. Bel-Coin-3, U.T.E. Bel-Coin-4, U.T.E. Bel-Coin-5, Sandusky International, Inc., Beloit Italia S.p.A., Impco Voest-Alpine Pulping Technologies GmbH, Austrocell Planungsgesellschaft MBH, Celtech Spol. S.R.O., ASAM Technologie GmbH, Xi-Be Roll Covering Company, CIC Canadian Industrial Consortium Inc., Beloit Industrial LTDA., Beloit Poland S.A., Beloit Fast Service S.A., Chelmek S.A., and Metalchem S.A.

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TABLE OF CITED AUTHORITIES

Cases

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VALMET PAPER MACHINERY, INC. and
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Respondents.

PETITION FOR WRIT OF CERTIORARI

Petitioner Beloit Corporation ("Beloit") respectfully petitions this Court for a writ of certiorari to restore the right to trial by jury guaranteed by the Seventh Amendment. Review of a decision by the United States Court of Appeals for the Federal Circuit is necessary to uphold this fundamental Constitutional right because that court employed a novel and improper "clearly erroneous" standard to overturn a jury verdict.

REPORTED DECISIONS

The following decisions and opinions in this case which directly relate to the questions presented by this petition have been reported.

Valmet Paper Machinery, Inc. & Valmet, Inc. v. Beloit Corporation, 112 F.3d 1169 (Fed. Cir. 1997) (granting in part a petition for rehearing by limiting the decision to invalidating claims of Beloit's patents that were challenged at trial and on appeal and by amending the description of prior art teachings

relied on by the Court of Appeals as invalidating claims of Beloit's patents).

Valmet Paper Machinery, Inc. & Valmet, Inc. v. Beloit Corporation, 105 F.3d 1409 (Fed. Cir. 1997) (reversing denial of judgment as a matter of law that Beloit's patents are invalid for obviousness, 35 U.S.C. § 103).

Valmet Paper Machinery, Inc., and Valmet-Charlotte, Inc. v. Beloit Corporation, 895 F.Supp 1158 (W.D. Wis. 1995) (denying judgment as a matter of law that claims of Beloit's patents are invalid for obviousness, 35 U.S.C. § 103).

BASIS FOR JURISDICTION

Beloit seeks review of the decision of the United States Court of Appeals for the Federal Circuit of January 28, 1997 (App. D), as amended by the Order of May 1, 1997(App. C), granting in part Beloit's combined petition for rehearing and suggestion for rehearing in banc. Beloit was granted permission to file a second suggestion for rehearing in banc. By an order dated July 7, 1997 (App. B), Beloit's second suggestion for rehearing in banc was denied both as a second petition for rehearing and as a suggestion for rehearing in banc. This Court has jurisdiction under 28 U.S.C. § 1254(1).

CONSTITUTIONAL PROVISION, STATUTE, and RULE INVOLVED

The following Constitutional provision, statute, and Federal Rule of Civil Procedure are involved in this case:

United States Constitution, Seventh Amendment

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise

reexamined in any Court of the United States, than according to the rules of the common law.

35 U.S.C. § 103 Conditions for patentability; nonobvious subject matter

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Fed.R.Civ.P. 50. Judgment as a Matter of Law in Jury Trials; Alternative Motion for New Trial; Conditional Rulings

(a) Judgment as a Matter of Law.

(1) If during a trial by jury a party has been fully heard on an issue and there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue, the court may determine the issue against that party and may grant a motion for judgment as a matter of law against that party with respect to a claim or defense that cannot under the controlling law be maintained or defeated without a favorable finding on that issue.

(b) Renewing Motion for Judgment After Trial; Alternative Motion for New Trial.

If, for any reason, the court does not grant a motion for judgment as a matter of law made at the close of all the evidence, the court is considered to have submitted the action to the jury subject to the court's later deciding the legal questions raised by the motion. The movant may renew its request for judgment as a matter of law by filing a motion no later than 10 days after entry of judgment - and may alternatively request a new trial or join a

motion for a new trial under Rule 59. In ruling on a renewed motion, the court may:

(1) if a verdict was returned:

(A) allow the judgment to stand,

(B) order a new trial, or

(C) direct entry of judgment as a matter of law; or

(2) if no verdict was returned;

(A) order a new trial, or

(B) direct entry of judgment as a matter of law.

STATEMENT OF THE CASE

This case arises from an action brought by respondent, Valmet Corporation, and respondent Valmet, Inc.'s predecessor, Valmet-Charlotte, Inc., (collectively "Valmet") for declaratory judgment of patent invalidity and noninfringement pursuant to 28 U.S.C. §§ 1331, 1338(a), and 2201.

The patents at issue here are United States Patent No. 5,144,758 ("the '758 patent") and United States Patent No. 5,249,372 ("the '372 patent") owned by Beloit. Beloit's '758 and '372 patents are members of a family of patents directed to paper machine drying section technology that was developed by Beloit in the late 1980's. This technology has revolutionized the design of paper machine drying sections. Beloit's technology has been copied by both of Beloit's major competitors leading to four trials (all won by Beloit) based on patents in this patent family. This is the second case to involve the '758 patent. In the first case, Beloit's other large competitor, Voith of Germany, challenged the validity of the '758 patent. A jury returned a verdict that Voith had not proven the patent invalid for obviousness. The District Court entered judgment on the verdict and enjoined future infringement. *Beloit Corp. v. J.M. Voith GmbH*, 29 U.S.P.Q. 2D (BNA) 1159 (W.D. Wis. 1993).

At trial of this case, Valmet challenged the validity of three of the ten claims of Beloit's '758 patent and two of the three claims of Beloit's '372 patent. The jury returned a verdict that Valmet had failed to prove that any of the challenged claims was

invalid for failure to satisfy the condition of patentability of 35 U.S.C. §103, nonobviousness. After the trial, wherein the jury also found infringement and awarded damages, Valmet filed a motion for judgment as a matter of law or for a new trial pursuant to Rule 50(b) Fed.R.Civ.P. The trial judge, who had also conducted the previous trial in which validity of Beloit's '758 patent was at issue, thoroughly examined the "extensive" evidence that was presented during the five day validity trial. App. E at 6 - 11. The district judge concluded that "Valmet has failed to show that no reasonable jury could have found in favor of Beloit on the issues of obviousness." App. E at 11 - 12. The District Court then entered judgment on the jury's verdict.

Valmet appealed the denial of its motion for judgment as a matter of law. Rather than conduct a review of all the evidence to determine whether it supported the verdict, the Court of Appeals for the Federal Circuit limited its review to two pieces of evidence on which Valmet primarily relied, United States Patent No. 3,383,780 ("Soininen patent") and a published German patent application ("Hauser application"). Based on its own interpretation of the technical disclosures of those documents, the Federal Circuit held the District Court's decision clearly erroneous. The Federal Circuit further found facts, based on its review of those two documents, on which it concluded that all claims of Beloit's '758 and '372 patents were invalid for obviousness. App. D at 10. The Federal Circuit decision did not address or apply the well established legal standard for review of jury findings. Additionally, although the validity of seven claims of Beloit's '758 patent and one claim of Beloit's '372 patent were neither challenged by Valmet nor litigated in the District Court or challenged on appeal, and although each claim of a patent is, by statute, presumed to be valid independent of any other claim of the patent, the Federal Circuit invalidated all claims of both of Beloit's patents for failure to meet the nonobviousness condition of patentability, 35 U.S.C. § 103. *Id.* This action was unprecedented and contrary to well established appellate rules.

Beloit filed a petition for rehearing and suggestion for rehearing in banc based on five errors of law and fact: the Federal Circuit invalidated claims that had neither been challenged nor

litigated despite their statutory independent presumption of validity; the Federal Circuit reviewed the District Court's decision denying Valmet's motion for judgment as a matter of law as though that decision set forth findings of fact supporting judgment after a bench trial rather than engaging in the correct (and required) review of the record for evidence supporting the jury's verdict; the Federal Circuit invalidated claims of Beloit's patents based on a construction of those claims that was contrary to law; the Federal Circuit's decision was based on its unprecedented factfinding which "found" facts contrary to the facts found presumptively by the jury and which were directly contradicted by the evidence; and the Federal Circuit did not follow this Court's precedent in making its obviousness determination. The Federal Circuit granted in part Beloit's petition for rehearing by amending its decision to invalidate only the claims that were actually litigated in the District Court, and made a "minor correction" to the fact finding in the decision to remove the contradiction in that decision of the evidence on which the decision relied. App. C. No action was taken on Beloit's suggestion for rehearing in banc.

Beloit requested and was granted permission to file a second suggestion for rehearing in banc. That suggestion for rehearing in banc asked the entire court to consider: whether the panel erred in treating the District Court's decision denying judgment as a matter of law as though it were a decision after a bench trial; whether the panel denied Beloit its Seventh Amendment right to a trial by jury by reviewing the District Court decision as though it was made after a bench trial and by applying the standard of review applicable to trial court decisions rather than the standard applicable to jury determinations and, in addition, finding facts contrary to those presumed to have been found by the jury; and whether the panel's determination of the obviousness issue was contrary to precedent of the Federal Circuit and this Court. Beloit's second suggestion for rehearing in banc was denied both as a petition for rehearing and as a suggestion for rehearing in banc. App. B.

SUMMARY OF THE ARGUMENT

In this case, a jury determined the facts underlying the legal determination of obviousness. The District Court examined the record and denied Valmet's motion for judgment as a matter of law (JMOL), applying the standard required by Rule 50 Fed. R. Civ. P. Yet the Federal Circuit inexplicably did not apply the "reasonable jury" standard of Rule 50 to review the judgment of the District Court. Rather, the Federal Circuit applied the clearly erroneous standard required for review of decisions after bench trials by Rule 52(a) Fed. R.. Civ. P. to review the District Court's decision denying judgment as a matter of law:

> The test for nonobviousness begins with a factual inquiry, and ends with a legal conclusion based on the resultant factual foundation. On appeal, we apply the **clearly erroneous standard to the court's fact finding**, and we review the legal conclusion de novo. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1595-97 (Fed. Cir. 1987).

App. D. at 7 (emphasis added).

There were no "factual findings" of the District Court for the Federal Circuit to review in this case because the facts were determined by a jury. The "clearly erroneous" standard of review which was applied by the Federal Circuit does not meet the requirement of the "substantial evidence" standard of review mandated by the Seventh Amendment to the Constitution and imposed by Fed.R.Civ.P. 50(b) for motions for JMOL.

The Federal Circuit's departure from this recognized standard of review, and the application instead of the less deferential, "clearly erroneous" standard, is unprecedented.[1] The fact that the

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[1] In addition to the conflict with Constitutional right and precedent, the Federal Circuit's application in this case of the clearly erroneous standard is so obviously wrong, and so obviously prejudicial to Beloit as the party that prevailed in the District

Federal Circuit applied the wrong standard is apparent from the sole authority it cited for the standard of review: *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68 (Fed. Cir.), *cert. denied*, 481 U.S. 1052 (1987). *Panduit* involved a bench trial case in which the district court made explicit factual findings as required by Fed.R.Civ.P. 52(a). In relying on the standard articulated in *Panduit*, the Federal Circuit failed to follow its own substantial body of precedent governing appeal from judgment entered on a jury's verdict. The Federal Circuit has repeatedly stated that judgment entered on a jury's verdict is reviewed under the substantial evidence standard. See e.g. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1235 (Fed. Cir.), *cert. denied*, 493 U.S. 853 (1989) ("When the judgment arises from a jury verdict, the reviewing court applies the reasonable jury/substantial evidence standard. . . .") *Structural Rubber Products v. Park Rubber*, 749 F.2d 707, 719 (Fed. Cir. 1984) ("Findings of fact by the jury are more difficult to set aside (being reviewed only for reasonableness under the substantial evidence test) than those of a trial judge (to which the clearly erroneous rule applies).") *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512 (Fed. Cir. 1984) ("appellant must come prepared to show that the jury's factual findings were not supported by substantial evidence, or if they were, that the jury's legal conclusion was not supported by those facts.")

In applying a standard of review appropriate only for district court factfinding, the Federal Circuit did more than merely depart from the standard of review required by Rule 50. This Court, as well as the circuit courts, have uniformly recognized that, under the Seventh Amendment, a court can reverse a jury's verdict only when there exists no "substantial evidence" to support that verdict. The Federal Circuit's application of the bench trial "clearly erroneous" standard contravenes the clear directive of the Seventh Amendment.

Court, this Court should exercise its supervisory powers to correct the Federal Circuit's mistake. *Florida v. Rodriguez*, 469 U.S. 1, 7 (1984) (Stevens, J., dissenting)

> As the Court of last resort in the federal system, we have supervisory authority and therefore must occasionally perform a pure error-correcting function in federal litigation.

The Federal Circuit, consistent with this Court's directive in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966), has adhered to the view that what the prior art taught to one of ordinary skill was a question of fact underlying the obviousness determination. Rather than consider whether substantial evidence supported the jury's presumed fact-finding, in this case, the Federal Circuit decided the factual issue itself: "The whole of the Soininen patent teaches . . ." App. C at 10; "Hauser then teaches . . ." *Id.*, "Given our reading of the Soininen patent and Hauser publication . . ." *Id.* The failure of the Federal Circuit to even consider whether substantial evidence supported the jury's presumed contrary view is an encroachment on Beloit's Seventh Amendment right to have a jury determine the facts.

For each of the reasons set forth in this petition, this Court should reverse the Federal Circuit's decision in this case.

REASONS FOR GRANTING THE WRIT

The Federal Circuit's decision in this case should be vacated because it violates Beloit's Seventh Amendment right to a determination of facts by a jury by failing to apply the standard of review required by Rule 50(a) Fed.R.Civ.P.

1. THE FEDERAL CIRCUIT REEXAMINED AND DISREGARDED FACTS THAT THE DISTRICT COURT HELD THE JURY COULD HAVE FOUND IN SUPPORT OF THE VERDICT

The Federal Circuit reversed the District Court's denial of Valmet's motion for judgment as a matter of law that Beloit's patent claims are invalid for obviousness. 35 U.S.C. §103. To reach that result, the Federal Circuit had to, and explicitly did, substitute its own findings of fact for those of the jury. Additionally, the Federal Circuit ignored facts, contrary to that Court's precedent, that the District Court held the jury could reasonably have found to support the verdict.

A. Obviousness Is a Question of Law That Is Based on Findings of Fact

This Court has held that the determination that an invention is nonobvious and therefore patentable is based on a factual inquiry. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). In *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809 (1986), this Court vacated a decision of the Federal Circuit and remanded the case with instructions that the Federal Circuit identify the factual inquiries on which the legal conclusion of obviousness is based.

> The description of the obviousness inquiry makes it clear that whether or not the ultimate question of obviousness is a question of fact subject to Rule 52(a), the subsidiary determination of the District Court, at least, ought to be subject to the Rule.
>
> The Federal Circuit, however did not mention Rule 52(a), did not explicitly apply the clearly-erroneous standard to any of the District Court's findings on obviousness, and did not explain why, if it was of that view, Rule 52(a) had no applicability to this issue. We therefore lack an adequate explanation of the basis for the Court of Appeals' judgment: most importantly, we lack the benefit of the Federal Circuit's informed opinion on the complex issue of the degree to which the obviousness determination is one of fact.

Dennison, 475 U.S. at 811. The opinion of the Federal Circuit on remand sets out that Court's view.

> A §103 determination involves fact and law. There may be these facts: what a prior art patent as a whole discloses; what it in fact disclosed to workers in the art; what differences exist between the entire prior art, or a whole prior art structure, and the whole claimed invention; what the differences enable the claimed subject matter as a whole to achieve; that others for years sought and failed to arrive at the claimed invention; that one of those others

> copied it; that the invention met on the merits with outstanding commercial success.

Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1566 (Fed.Cir. 1987). The Federal Circuit also clearly stated that the legal conclusion must be based on all the probative facts.

> To reach a proper conclusion under §103, the decisionmaker must step backward in time and into the shoes worn by that "person" [having ordinary skill in the art] when the invention was unknown and just before it was made. In light of *all* the evidence, the decisionmaker must then determine whether the patent challenger has convincingly established, 35 U.S.C. §282, that the claimed invention as a whole would have been obvious at *that* time to *that* person. The answer to that question partakes more of the nature of law than of fact, for it is an ultimate conclusion based on a foundation formed of all the probative facts.

Id. (Footnote omitted.)

The Federal Circuit has acknowledged the fact intensive nature of the obviousness inquiry as well as this Court's explicit admonishment in the *Dennison* decision that the inquiry is fact-intensive. *Litton Systems, Inc. v. Honeywell, Inc.*, 87 F.3d 1559, 1567 (Fed. Cir. 1996), *vacated on other grounds*, 117 S.Ct. 1240 (1997). Consistent with that view, the Federal Circuit reviews the teachings of the prior art as questions of fact underlying the obviousness determination. "What the prior art teaches and whether it teaches toward or away from the claimed invention also is a determination of fact." *Para-Ordnance Mfg. v. SGS Importers Intern., Inc.*, 73 F.3d 1085, 1088 (Fed. Cir. 1995), *cert. denied*, 117 S.Ct. 80 (1996) (citations omitted). The Federal Circuit has also consistently held that the teaching of the prior art must be determined from the perspective of one of ordinary skill in the art, giving rise to the second factual inquiry identified by the Federal Circuit's *Panduit* decision. See *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve*, 796 F.2d 443, 448 (Fed. Cir. 1986), *cert. denied*, 484 U.S. 823 (1987), *In re Fritch*, 972 F.2d 1260, 1264

(Fed. Cir. 1992), *Leinoff v. Louis Milona & Sons, Inc.*, 726 F.2d 734, 746 (Fed. Cir. 1984), *overruled on other grounds by A. C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020 (Fed.Cir. 1992).

B. The Federal Circuit Reversed The District Court's Denial of Valmet's Motion For Judgment As a Matter of Law Based on Its Own Fact Finding

The Federal Circuit's decision in this case reversing judgment entered on a jury verdict was explicitly based on the Court of Appeals' interpretation of two prior art publications, the Soininen patent, United States Patent No. 3,868,780, and the published 1981 German patent application of Hauser.

> "**Given our reading of the Soininen patent and Hauser publication**, and our interpretation of the Beloit patents, we hold that a person of ordinary skill in the art would have found Beloit's claimed invention obvious."

App. D. at 10.

Though the statute and the Federal Circuit's precedent uniformly hold that the obviousness inquiry must be based on the view of one of ordinary skill in the art, the Federal Circuit's decision here does not indicate any basis for the Federal Circuit's substitution of its view for that of one skilled in the art. With due respect, the Federal Circuit is not one of ordinary skill in the art of paper machine design. "A judge is not usually a person conversant in the particular technical art involved and is not the hypothetical person skilled in the art to whom a patent is addressed." *Markman v. Westview Instruments*, 52 F.3d 967, 986 (Fed. Cir. 1995)(in banc), *aff'd*, 116 S.Ct. 1384 (1996).

The jury, however, heard evidence from those skilled in the art. Presumptively such evidence was a basis for its verdict. For this reason alone, the Federal Circuit's foray into the art of paper machine design with the resulting evisceration of the Seventh Amendment is objectionable. The Federal Circuit's

decision here is based only on what that Court found the prior art to teach. The question should have been what does the entire record show would have been obvious to one of ordinary skill in the art at the time Beloit's inventions were made? *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566 (Fed.Cir. 1987).

C. The Federal Circuit Found Facts That Contradict and Ignore the Record and Facts That the District Court Held the Jury Could Have Reasonably Found

Whether claims of Beloit's '758 and '372 patents would have been obvious, in view of the Soininen patent and Hauser application, to one of ordinary skill in the art at the time the inventions were made was the primary issue litigated during the five day validity portion of the trial. The District Court denied Valmet's motion for judgment as a matter of law based on the evidence admitted during that portion of the trial. The District Court referred to the Soininen patent as teaching "convoluted configurations" that contrast to the invention of Beloit's patents. App. E at 8. The District Court referred to evidence that Beloit's inventions solved problems, App. E at 8-9, where the Soininen patent taught a device that was inefficient, impractical, had never been built, and though owned by Valmet, had never led any Valmet engineer to develop the drying sections disclosed by Beloit's patents. App. E at 10-11. These are facts that must be considered. *Panduit*, 810 F.2d at 1566.

The Federal Circuit found, relying on its *sua sponte* examination of prior art technical documents, that a person of ordinary skill in the art would have found it obvious to reconfigure the machines disclosed by the Soininen patent. App. D at 10. The Federal Circuit ignored the facts before the jury; facts cited by the trial judge who conducted the trial, heard all the testimony, saw all the exhibits, and prepared a thorough opinion denying Valmet's motion for judgment as a matter of law. The District Court identified evidence as providing a basis on which a reasonable jury could find that the Soininen patent, a technical document, would have been understood to disclose machines that are significantly different than Beloit's invention by a person skilled in the art,

having a technical background and experience. Additionally, evidence that the Patent Office expressly determined that Soininen did not disclose a dryer cylinder arrangement as recited in Beloit's patents was before the jury and cited to the Federal Circuit. Record on Appeal, Joint Appendix, A11532-34.

The Federal Circuit did not explain why that evidence was inadequate to support the jury's verdict. The Federal Circuit did not explain why it disagreed with the District Court's conclusion that those of skill in the art could well have been misled by the convoluted, impractical, and inefficient machine disclosed by the Soininen patent. The Federal Circuit simply found *de novo* that the prior Soininen patent and Hauser application taught enough to a person of ordinary skill in the art to render Beloit's patents' claims invalid. Less than five paragraphs of a Federal Circuit rationale replaced five days of evidence heard and considered by a jury.

2. THE FEDERAL CIRCUIT'S DECISION USURPS THE CONSTITUTIONAL RIGHT TO TRIAL BY JURY

In this case, a jury determined the factual inquiries underlying the obviousness determination. The District Court, in a detailed opinion denying Valmet's motion for judgment as a matter of law, identified substantial evidence the jury could have relied upon in reaching its verdict. The Federal Circuit's decision treated that opinion as though it set forth Rule 52 findings of fact, and reviewed some of those "findings" under the clearly erroneous standard of review. That standard of review, however, is not authorized by Rule 50 when the fact-finder is a jury. Rule 50(a) Fed.R.Civ.P. codifies the common law test mandated by the Constitution for review of jury determinations.

> If during a trial by jury a party has been fully heard on an issue and there is **no legally sufficient evidentiary basis for a reasonable jury to find for that party** on that issue, the court may determine the issue against that party and may grant a motion for judgment as a matter of law against that party with respect to a claim or defense that cannot under the controlling law be

> maintained or defeated without a favorable finding on that issue. (Emphasis added.)

The District Court correctly applied that standard in denying Valmet's motion for judgment as a matter of law:

> Any party moving for judgment as a matter of law faces the daunting task of establishing that no reasonable jury could have rendered the challenged verdict.

App. E at 3. The Federal Circuit recognized that the District Court entered judgment on the jury's verdict that the (challenged) claims of Beloit's '758 and '372 patents were not invalid for obviousness. App. D at 6. The Federal Circuit also recognized that judgment was entered after denial of Valmet's motion for judgment as a matter of law. App. D at 7. However, in reviewing the District Court's denial of Valmet's motion for judgment as a matter of law, the Federal Circuit applied the wrong standard. It did not apply the constitutionally mandated "reasonable jury" standard of Rule 50(a) but rather applied the "bench trial" standard of Rule 52(a). Specifically, the Federal Circuit stated:

> We turn to the conclusion that the subject matter of Beloit's patents met the statutory requirement of nonobviousness of 35 U.S.C. §103 despite the teachings of the Soininen patent and the Hauser publication. The test for nonobviousness begins with a factual inquiry, and ends with a legal conclusion based on the resultant factual foundation. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1USPQ2d 1593, 1595-97 (Fed. Cir. 1987)[2]. On appeal, **we apply the clearly erroneous standard to the court's factfinding**, and we review the legal conclusion de novo.

---

[2] This decision is on appeal from a trial without a jury and identifies findings of fact subject to review under the "clearly erroneous" standard of Rule 52(a) Fed.R.Civ.P. See section 1.A *supra.*

Id. (Emphasis added.) But judgment was entered on a jury verdict. The Federal Circuit was required to review the record to determine whether there was substantial evidence from which a reasonable jury could have reached its verdict. It failed to do so. In so failing, the Court of Appeals violated the requirements of Rule 50 and thus the guarantee of the Constitution.

The Federal Circuit examined "the court's factfinding." That statement mischaracterizes the decision by the District Court which, pursuant to Rule 50, examined the record for evidence on which a reasonable jury could rely. Further, that approach to reviewing the judgment is error. Under Rule 50 and the Seventh Amendment, the Federal Circuit was required to review the record at trial to determine whether the jury's verdict was supported by substantial evidence. The Court of Appeals should not have limited its review to those items the District Court considered as a sufficient basis for denying Valmet's motion for judgment as a matter of law. The Federal Circuit should have considered all facts, including all those identified by the District Court that the jury could reasonably have found as supporting the verdict. The Federal Circuit also committed error when it examined the facts identified by the District Court for clear error rather than the "reasonable jury" standard required by Rule 50.

A. The Federal Circuit Applied the "Clearly Erroneous" Standard of Review Rather Than the "Reasonable Jury" Standard Required by Rule 50(a)

The Federal Circuit explicitly applied the "clearly erroneous" standard in reviewing the limited evidence that it considered as supporting the few facts that it considered: "The district court committed clear error by disregarding these teachings of Hauser." App. D at 10.

> Thus, we hold that the district court incorrectly limited the teachings of Soininen, misconstrued Beloit's patents, and erroneously overstated the differences between the two inventions.

App. D at 9. That "holding" concerning the teachings of Soininen conflicts with the Federal Circuit's own law that what is taught by the prior art (Soininen) is a question of fact which the jury determined. The Federal Circuit erroneously identified the fact finder in this case and erroneously reviewed the District Court's decision, which applies the jury trial standard of Rule 50, under the bench trial standard of Rule 52.

The Federal Circuit's departure from the correct standard of review in this case clearly prejudiced Beloit, the verdict winner. Additionally, this precedential decision renders the Federal Circuit's review of judgments entered on jury verdicts to be inconsistent with the Federal Rules of Civil Procedure. By ignoring Rule 50, the Federal Circuit has provided no basis for its holding that the District Court's carefully prepared decision applying the standard required by Rule 50 was error. The Federal Circuit's decision should be reversed.

B. The Federal Circuit Failed to Consider the Complete Record

In *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1510-11 (Fed. Cir. 1984), the Federal Circuit recognized that review of a judgment entered on a jury's verdict cannot be confined to the decision of the district court denying judgment as a matter of law. It is not the decision of a district court that is the subject of review, but rather the judgment.

> It is judgments that are appealed. Because a final judgment issues in favor of the movant, it has been said that "an order granting a motion for JNOV is appealable." Orders denying a motion for JNOV and granting or denying a motion for new trial do not generally result in judgments and are not themselves appealable. In those latter instances, the only appealable judgment is that entered on the jury's verdict.

Id. (citation omitted). See also *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1235 Fed. Cir. 1989), *Structural Rubber Products v. Park Rubber*, 749 F.2d 707, 719 (Fed.Cir. 1984).

Despite its own precedent to the contrary, the Federal Circuit reviewed the District Court's decision denying Valmet's motion. "First, the district court examined Valmet's 'drying cylinder group' ..." App. D at 8. "The court found that Soininen taught." *Id.* "Essentially, the court read Soininen to teach ..." Id. The Federal Circuit did not examine the factual and evidentiary basis for the judgment entered on the jury's verdict.

The Federal Circuit violated Rule 50 by failing to consider the complete record. The entire record must be reviewed in the light most favorable to the verdict winner. *Continental Ore Co. v. Union Carbide & Carbon Corp.*, 370 U.S. 690, 696 (1962). The Federal Circuit did not even consider the entire record relied on by the District Court. The District Court referred to extensive evidence supporting findings of fact that the Federal Circuit has held must be considered in determining obviousness. *Panduit*, 810 F.2d at 1566. The District Court held that the jury could reasonably have relied on these facts to reject the theory advanced by Valmet and adopted by the Court of Appeals. App. E at 6 - 7. The District Court stated that the jury was entitled to determine that the evidence established facts inconsistent with that theory. App. E at 7 - 9. The District Court stated that the jury could additionally have accepted rebuttal evidence as establishing facts that render that theory insupportable. App. E at 9 - 12. The Federal Circuit ignored this evidence that the District Court held sufficient to support the jury's verdict. The Federal Circuit did not identify any basis for holding that the District Court erred in relying on that evidence in applying the "reasonable jury" standard required by Rule 50. The Federal Circuit's decision ignores that portion of the record and identifies no basis for holding that the District Court erred by holding that this evidence is credible support for the jury's verdict.

3. THE USE BY THE FEDERAL CIRCUIT OF A "CLEARLY ERRONEOUS" STANDARD TO REVIEW THE DISTRICT COURT'S DENIAL OF THE MOTION FOR JUDGMENT AS A MATTER OF LAW VIOLATED THE SEVENTH AMENDMENT

A. The Federal Circuit's Violation of the Seventh Amendment Should Not Be Permitted to Stand

In employing the "clearly erroneous" standard to review the District Court's denial of Valmet's motion for judgment as a matter of law, the Federal Circuit did considerably more than merely depart from universally established appellate practice under Rule 50(b). In addition, the lower court's chosen standard of review violated the Seventh Amendment to the Constitution, as uniformly interpreted by decisions of both this Court and other courts of appeal.

In relevant part, the Seventh Amendment provides that "no fact tried by a jury shall be otherwise re-examined in any Court of the United States than according to the rules of the common law." U.S. Const. amend. VII, cl. 2. In order to determine the constitutionality of a particular exercise of judicial review over a jury's findings, then, "resort must be had to the appropriate rules of the common law established at the time of the adoption of that constitutional provision in 1791." *Dimick v. Schiedt*, 293 U.S. 474, 476 (1935). Thus, the Seventh Amendment infuses common law practice concerning judicial control of the jury's verdict at the time of the Amendment's adoption with constitutional status.

> [W]e are dealing with a constitutional provision which has in effect adopted the rules of the common law in respect of trial by jury as these rules existed in 1791. To effectuate any change in these rules is not to deal with common law, qua common law, but to alter the Constitution.

Dimick v. Schiedt, 293 U.S. 474, 487 (1935). Examination of judicial interpretation of the Seventh Amendment, in a uniform line of decisions in this Court as well as in the courts of appeal,

clearly demonstrates two fundamental precepts of Seventh Amendment jurisprudence: (1) under the practice of the common law, a court could reverse a jury's verdict only when there existed no "substantial evidence" to support that verdict, and (2) the "substantial evidence" standard is considerably less invasive of the factfinder's province than is the "clearly erroneous" standard, which was employed by the Federal Circuit in reversing the District Court's denial of Valmet's motion for judgment as a matter of law.[3] Thus, the conclusion is inescapable that the decision of the court below contravenes the unambiguous directive of the Seventh Amendment.

This Court should not permit such an unambiguous violation of a constitutional command to stand, for two important reasons. Initially, this Court has long recognized that

> [t]he right of jury trial in civil cases at common law is a basic and fundamental feature of our system of federal jurisprudence... . A right so fundamental and sacred to the citizen... should be jealously guarded by the courts.

Jacob v. New York, 315 U.S. 752, 752-53 (1942). As this Court has also stated,

> [m]aintenance of the jury as a fact-finding body is of such importance and occupies so firm a place in our history and jurisprudence that any seeming curtailment of the right to a jury trial should be scrutinized with the utmost care.

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[3] It should be emphasized that in denying Valmet's motion for judgment as a matter of law, the trial court was holding that the jury's verdict on the issue of obviousness was, in fact, supported by substantial evidence. Thus, in reversing the trial court's denial of the motion for judgment as a matter of law, the Court of Appeals was doing considerably more than simply reviewing the correctness of the trial court's ruling. It was, rather, effectively reversing the jury's verdict, without the required Seventh Amendment review.

Dimick v. Schiedt, 293 U.S. 474, 486 (1935). See also *Finley v. United States*, 1997 WL 473931 at *5 (10th Cir., Aug. 20, 1997), ("it is our duty to carefully scrutinize any apparent curtailment of [the jury's] function.").

If allowed to stand, the decision below would cause severe injustice to Beloit, by denying it this fundamental constitutional protection. Moreover, so striking a departure from established constitutional interpretation by a court as respected as the Federal Circuit would, at the very least, give rise to substantial confusion in the courts of appeal. At worst, the Federal Circuit's decision could threaten to undermine the sanctity of a vital constitutional protection in all cases involving patents, customs and court of claims matters that are appealed to the Federal Circuit.

B. The Seventh Amendment Dictates That a Jury Verdict be Reviewed Only by the "Substantial Evidence" Standard

In *Galloway v. United States*, 319 U.S. 372, 395 (1943), this Court held that when the judge decides whether or not to remove a case from the jury, under the Seventh Amendment

> the essential requirement is that mere speculation be not allowed to duty for probative facts, after making due allowance for all reasonably possible inferences favoring the party whose case is attacked.[4]

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[4] The Advisory Committee Notes for the 1991 amendment to Rule 50 Fed.R.Civ.P. make clear that the "reasonable jury" standard was written into that rule to assure that the rule would not be applied in a way that would violate the Seventh Amendment.

> The expressed standard makes clear that action taken under the rule is a performance of the court's duty to assure enforcement of the controlling law and is not an intrusion on any responsibility for factual determinations conferred on the jury by the Seventh Amendment or any other provision of federal law.

On another occasion, this Court held that a case falls properly within the jury's province

> [w]henever facts are in dispute or the evidence is such that fair-minded men may draw different inferences... . Only when there is a complete absence of probative facts to support the conclusion reached does a reversible error appear.

Lavender v. Kurn, 327 U.S. 645, 653 (1946).

This Court in *Lavender* added that

> the appellate court's function is exhausted when that evidentiary basis becomes apparent, it being immaterial that the court might draw a contrary inference or feel that another conclusion is more reasonable.

Id. That this highly deferential "substantial evidence" standard is constitutionally dictated is beyond question. See *Galloway v. United States*, supra, at 395. See also id., at 406-07 (Black, J., dissenting) (quoting *Tarter v. United States*, 17 F.Supp. 691, 692-93 (W.D. Ky. 1937): (""The Seventh Amendment to the Constitution guarantees a jury trial in law cases, where there is substantial evidence to support the claim of the plaintiff in an action.' "); *Richmond & Danville Railroad Co. v. Powers*, 149 U.S. 43, 45 (1893) (factual issues are to be settled by the jury where there exists "a conflict in the testimony, or the facts being undisputed, fair-minded men will honestly draw different conclusions from them.").

An appellate court has no greater power under the Seventh Amendment to reverse a jury's verdict than does a trial court. As the Fifth Circuit has stated, "[o]ur review of a jury verdict as to the sufficiency of the evidence is exceedingly narrow because of the requirements of the right to a jury trial preserved by the Seventh Amendment to the United States Constitution." *Granberry v. O'Barr*, 866 F. 2d 112, 113 (5th Cir. 1988). Appellate review employs

> the same common law standard which is applied in awarding a directed verdict or a judgment notwithstanding the verdict. The standard of review is usually referred to as a "sufficiency of the evidence" standard.

Id.

As described in another decision of the Fifth Circuit:

> The standard for appellate review of a jury's verdict is exacting. The verdict must be upheld unless the facts and inferences point so strongly and so overwhelmingly in favor of one party that reasonable men could not arrive at any verdict to the contrary. If there is evidence of such quality and weight that reasonable and fair minded men in the exercise of impartial judgment might reach different conclusions, the jury function may not be invaded.

Western Co. of North America v. United States, 699 F. 2d 264, 276 (5th Cir.), *cert. denied*, 464 U.S. 892 (1983).

Thus, common law practice--and therefore the Seventh Amendment--dictate use of the highly deferential "substantial evidence" standard when either the trial or appellate court decides whether or not to invade the jury's province. The need to adhere to this deferential standard flows from judicial recognition that "[e]ither the judge or the jury must decide facts and, to the extent that we take this responsibility, we lessen the jury function." *Galloway v. United States*, 319 U.S. 372, 407 (1943) (Black, J., dissenting).

C. The "Clearly Erroneous" Standard, Employed by the Federal Circuit, Is Significantly More Invasive of the Jury's Province Than Is the Constitutionally Dictated "Substantial Evidence" Standard.

For reasons that remain unclear, the court below chose to review the jury's verdict not under the constitutionally dictated "substantial evidence" standard, but rather by resort to the "clearly erroneous" standard. Such an approach represents a striking departure from the common law practice that is embodied in the Seventh Amendment. As one Court of Appeals has held, "[t]he common law standard of review is not the 'clearly erroneous' standard...." *Granberry v. O'Barr*, 866 F. 2d 112, 113 (5th Cir. 1988).

This departure from constitutional directive represents considerably more than merely a semantic alteration. It represents a judicial rewriting of a fundamental Constitutional guarantee, and should not be permitted to stand.

A finding will be deemed "clearly erroneous" when, "although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." *United States v. U.S. Gypsum Co.*, 333 U.S. 364, 395 (1948). On its face, such a standard unambiguously imposes a level of review considerably more invasive than "substantial evidence," which requires only that the finding be reasonable and more than pure speculation. It is therefore understood that where the clearly erroneous standard applies, "the appellate court will set the findings aside even though there is evidence supporting them that, by itself, would be considered substantial." Charles Alan Wright & Arthur R. Miller, 9A Federal Practice and Procedure §2585, at 577 (1995) (footnote omitted)[5]. See, e.g., *Irving v. United States*, 49 F. 3d 830 (1st Cir.

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[5] Even the constitutionally lower standard of "clearly erroneous" review may not simply be ignored by an appellate court. *Graver*

1995); *Williams v. Procunier*, 735 F. 2d 875, 878 (5th Cir.), *cert. denied*, 469 U.S. 1075 (1984); *Jones v. Pitt County Bd. of Educ.*, 528 F. 2d 414, 418 (4th Cir. 1975).

The differences between the "clearly erroneous" and "substantial evidence" standards were accurately summarized by Professors Wright and Miller:

> [I]t is not accurate to say that [under the clearly erroneous standard] the appellate court takes that view of the evidence that is most favorable to the appellee, that it assumes that all conflicts in the evidence were resolved in his favor, and that he must be given the benefit of all favorable inferences. All of this is true in reviewing a jury verdict [under the "substantial evidence" test]. It is not true when it is findings of the court that are being reviewed [pursuant to the "clearly erroneous" standard of Rule 52(a)].

Wright & Miller, supra, §2585, at 567-68 (footnote omitted).

Indeed, when the drafters of the Federal Rules of Civil Procedure chose expressly to adopt the "clearly erroneous" standard for an appellate court's review of a trial court's findings of fact pursuant to Federal Rule of Civil Procedure 52(a) they "rejected proposals to apply the limited review of a jury verdict to findings of a judge." Wright & Miller, supra, §2585, at 567 (footnote omitted).

Thus, there can be no doubt that the court below departed from the well understood common law practice--constitutionalized by the Seventh Amendment--of reviewing the jury's verdict only pursuant to the highly deferential "substantial evidence" standard. In its place, the court below substituted a considerably more invasive standard, unprecedented in review of a jury verdict. The

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Tank & Manufacturing Co. v. Linde Air Products Co., 336 U.S. 271, 275 (1949). Clearly that is true of the Seventh Amendment mandated standard.

decision of the court below therefore must be reversed, lest it simultaneously confuse the state of Seventh Amendment interpretation and threaten the continued vitality of the jury trial right in civil cases.

CONCLUSION

The Federal Circuit committed clear error by applying the "clearly erroneous" standard of Rule 52 Fed.R.Civ.P. to review the decision prepared by the District Court pursuant to Rule 50. Application of the "clearly erroneous" standard of review to factual findings of the jury violated Beloit's right under the Seventh Amendment to the Constitution to a trial by jury. For all the reasons set forth above, this Court should grant a writ of certiorari to the Court of Appeals for the Federal Circuit. The decision of the Federal Circuit should be reversed.

Respectfully submitted,

DATED: October 6, 1997

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APPENDIX A

United States Court of Appeals for the Federal Circuit

95-1301

VALMET PAPER MACHINERY, INC. & VALMET, INC.,

Plaintiffs-Appellants,

v.

BELOIT CORPORATION,

Defendant-Appellee.

Judgment

ON APPEAL from the United States District Court for the Western District of Wisconsin

in CASE NO(S). 95-1301

This CAUSE having been heard and considered, it is

ORDERED and ADJUDGED:

REVERSED.

ENTERED BY ORDER OF THE COURT

DATED JAN 28 1997

Jan Horbaly

Jan Horbaly, Clerk

COSTS: AGainst, Appellee.
PRINTING----------$7,240.77
TOTAL----------$7,240.77
ISSUED AS A MANDATE: July 14, 1997

APPENDIX B

United States Court of Appeals for the Federal Circuit

95-1301

VALMET PAPER MACHINERY, INC. and
VALMET, INC.,

Plaintiffs-Appellants,

v.

BELOIT CORPORATION,

Defendant-Appellee.

O R D E R

BEST AVAILABLE COPY

United States Court of Appeals for the Federal Circuit

ORDER

A suggestion for rehearing in banc having been filed by the APPELLEE, and a response thereto having been invited by the court and filed by the APPELLANT, and the matter having first been referred as a petition for rehearing to the panel that heard the appeal, and the suggestion for rehearing in banc and response thereafter circulated to judges on the panel that heard the appeal and to the remaining active judges of the court, no judge having asked for a poll whether to rehear the appeal in banc,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED and it is further

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, DECLINED.

The mandate of the court will issue on July 14, 1997.

FOR THE COURT,
JAN HORBALY, CLERK

Dated: July 7, 1997

By Alex Van Veen
Alex Van Veen
Staff Law Clerk

cc: MYRON COHEN
GEORGE P. MCANDREWS

FILED
U.S. COURT OF APPEALS FOR
THE FEDERAL CIRCUIT

JUL - 7 1997

JAN HORBALY
CLERK

VALMET PAPER V BELOIT CORP, 95-1301
(DCT - 93-C-0587-C)

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* Note: Pursuant to Fed. Cir. R. 47.6, this order is not *
* citable as precedent. It is a public record. *
*
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APPENDIX C

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

95-1301

VALMET, INC. and
VALMET-CHARLOTTE, INC.,

Plaintiffs-Appellants,

v.

BELOIT CORPORATION,

Defendant-Appellee.

Myron Cohen, Cohen, Pontani, Lieberman & Pavane, of New York, New York, submitted a response for plaintiffs-appellants to a petition for rehearing and suggestion for rehearing in banc. With him on the petition were William A. Alper and Michael C. Stuart. Of counsel on the response were Michael Evan Jaffe, Arent, Fox, Kintner, Plotkin & Kahn, of Washington, D.C., and Brian E. Butler, Stafford, Rosenbaum, Rieser & Hansen, of Madison, Wisconsin.

George P. McAndrews, McAndrews, Held & Malloy, Ltd., of Chicago, Illinois, submitted a petition for rehearing and suggestion for rehearing in banc for defendant-appellee.. With him on the petition were Steven J. Hampton, Gregory C. Schodde, and Michael B. Harlin.

Appealed from: U.S. District Court for the Western District of Wisconsin

Chief Judge Crabb

United States Court of Appeals for the Federal Circuit

95-1301

VALMET PAPER MACHINERY, INC. & VALMET, INC.,

Plaintiffs-Appellants,

v.

BELOIT CORPORATION,

Defendant-Appellee.

ON REHEARING

Before RICH, LOURIE, and BRYSON, Circuit Judges.

RICH, Circuit Judge.

ORDER

Beloit Corp. petitions for rehearing of our decision of January 28, 1997 holding that its U.S. Patents 5,144,758 and 5,249,372 are invalid on the ground of obviousness. Valmet Paper Mach., Inc. v. Beloit Corp., No. 95-1301 (Fed. Cir. Jan. 28, 1997). Beloit argues, inter alia, that only certain claims of those patents were asserted and that, accordingly, invalidation of the entire patents was improper. While Valmet responds that the decision is correct, it states that it has no objection to the court confining the decision to the five claims in dispute, namely claims 1 and 2 of the '372 patent and claims 1-3 of the '758 patent.

We have carefully reviewed Beloit's petition and Valmet's response. For the reasons stated in the opinion, we agree with Valmet that the asserted claims are invalid on the ground of obviousness under 35 U.S.C. § 103. In light of Valmet's concession and our further review of the record, however, we conclude that the decision should be limited to the five claims in dispute and that other minor corrections should be made to the opinion.

Accordingly,

IT IS ORDERED THAT:

Beloit's petition for rehearing is granted to the extent that the following changes have been made to the opinion.

On page 4, line 6, "row" has been changed to --group--.

On page 4, line 7, "row" has been changed to --group-- and the second occurrence of "a" has been deleted.

On page 4, line 8, "group applies" has been changed to --groups apply-- and "row" has been changed to --group--.

On page 4, line 9, "row" has been changed to --group--.

On page 6, line 8, "Beloit's patent claims" has been changed to --claims 1 and 2 of the '372 patent and claims 1-3 of the '758 patent--.

On page 7, line 7, "Beloit's '758 and '372 patents are valid and infringed" has been changed to --claims 1 and 2 of the '372 patent and claims 1-3 of the '758 patent are not invalid and are infringed--.

On page 8, line 4, --asserted-- has been added before "claims".

On page 8, lines 17-19, the following text has been deleted: "where the first row dries one side of the web, then the web travels up to the second row which takes it back in the opposite direction to dry the opposite side."

On page 8, line 19, --asserted-- has been added before "claims".

On page 10, line 12, --asserted-- has been added before "claimed".

On page 10, line 16, "both Beloit's '758 and '372 patents" has been changed to --claims 1 and 2 of the '372 patent and claims 1-3 of the '758 patent--.

FOR THE COURT

May 1, 1997
Date

Giles S. Rich
Circuit Judge

APPENDIX D

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

95-1301

VALMET PAPER MACHINERY, INC. and
VALMET, INC.,

Plaintiffs-Appellants,

v.

BELOIT CORPORATION,

Defendant-Appellee.

Myron Cohen, Cohen, Pontani, Lieberman & Pavane, of New York, New York, argued for plaintiffs-appellants. With him on the brief were William A. Alper and Michael C. Stuart. Also on the brief were Brian E. Butler, Stafford, Rosenbaum, Rieser & Hansen, of Madison, Wisconsin, and Michael E. Jaffe, Arent, Fox, Kintner, Plotkin & Kahn, of Washington, D.C. Of counsel were Jill R. Newman, Arent Fox, Kintner, Plotkin & Kahn, and Martin B. Pavane, Cohen, Pontani, Lieberman & Pavane.

George P. McAndrews, McAndrews, Held & Malloy, Ltd., of Chicago, Illinois, argued for defendant-appellee. With him on the brief were Steven J. Hampton and Gregory C. Schodde. Of counsel were D. David Hill and Thomas J. Wimbiscus.

Appealed from: U.S. District Court for the Western District of Wisconsin

Judge Crabb

United States Court of Appeals for the Federal Circuit

95-1301

VALMET PAPER MACHINERY, INC. & VALMET, INC.,

Plaintiffs-Appellants,

v.

BELOIT CORPORATION,

Defendant-Appellee.

DECIDED: January 28, 1997

Before RICH, LOURIE, and BRYSON, Circuit Judges.

RICH, Circuit Judge.

Appellants Valmet Paper Machinery, Inc. and Valmet, Inc. (collectively "Valmet") sued Beloit Corporation for infringement of Valmet's patent on a drying machine used in making paper. Beloit counterclaimed for infringement of two patents it holds on drying-

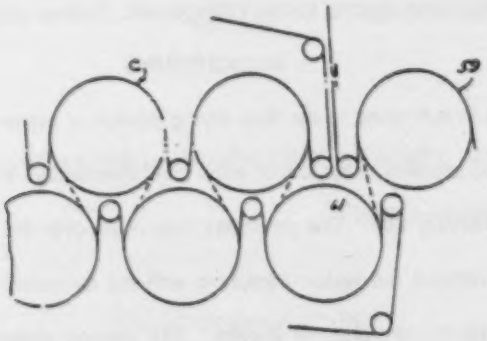
machine inventions. The district court granted summary judgment that Valmet's patent was not infringed, and that it did not anticipate Beloit's two patents. Following a jury trial, the court entered judgment that Beloit's patents were valid and infringed, and granted Beloit an injunction against further infringement. Valmet appeals. We reverse.

BACKGROUND

The patents in suit relate to the final drying portion of paper-making machinery. In the paper-making process, a system of large machines sprays a suspension of fiber and water onto a moving web. The machines then maneuver the wet web through a series of steps to remove the water, beginning with the formation stage where water drains from the web by operation of gravity. The second stage generally involves pressing additional water from the web with rollers. The last stage, the area of the inventions in this appeal, features heated drying cylinders designed to evaporate the remaining moisture as the web comes in contact with them.

The heated-cylinder segment of the drying process presents several challenges. The paper web moves through the drying machines at high speed, and these machines must avoid stretching or tearing the web. At the same time, the machines must dry the paper as evenly as possible, including both the top and bottom surfaces of the web. Conventionally, this stage has employed heated cylinders in a "two tier" setup. In a two-tier arrangement, one row of cylinders lies in an upper plane and a second row of cylinders lies in a lower plane. Looking along the length of a two-tier drying section, the sequence of cylinders applied alternates between the upper and lower planes such that the next cylinder in order is on the opposite plane. The paper web runs beneath a

lower-plane cylinder, then over an upper-plane cylinder, then under a lower-plane cylinder, and so on. The lower cylinders apply heat to the top surface of the paper, and the upper cylinders to the bottom surface. This figure depicts a prior art two-tier dryer.[1]



Problems arise from "open draws" where the paper web must cross, unsupported, through an open space to the next cylinder. As the web speeds from under a bottom cylinder up to make contact with the next upper cylinder, for example, the portion of the web not in contact with a cylinder tends to "flutter." This increases the risk of stretching or breakage. Two-tier drying machines have employed felt guide belts, which accompany the web through the machine then circle back to the beginning of the machine to create a continuous loop, as well as guide rollers to reduce the risk of damage to the web. A felt guide belt traveling with the web, however, prevents the heated cylinders from directly touching the web on the side adjacent to the felt.

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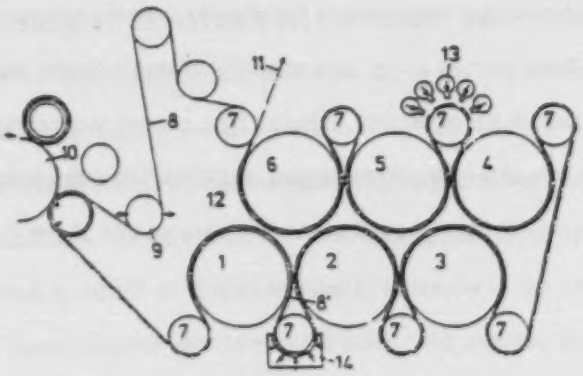
[1] Figure is the dryer portion of Fig. 2 of Goodwillie Patent No. 2,537,129. Small circles indicate guide rolls, large circles represent drying cylinders, and the dotted line shows the path of the paper web.

The first of the patents in suit, the Soininen patent, No. 3,868,780 issued March 4, 1975, to Valmet as assignee. The Soininen patent claims "drying cylinder group[s]" comprising "two substantially parallel rows of drying cylinders" where a guide belt and guide rolls direct the web along each cylinder in the first row before bringing the web to the start of the second row, rather than alternating around cylinders in two separate rows in different planes. After the first row, additional guide rolls cause the guide belt to run along the opposite sides of the next row of drying cylinders. As a result, a drying cylinder group applies direct heat to one side of the web in its first row, and the other side in its second row. Soininen also discusses inclusion of "foraminous" (i.e., perforated) guide rolls and claims a structure where walls enclose the sides of the guide belt loops. Forming a closed space inside the belt facilitates introduction of a vacuum in that space to pull the paper web outside the guide belt more tightly onto the belt and rolls. The following figure comes from the Soininen patent.[2]

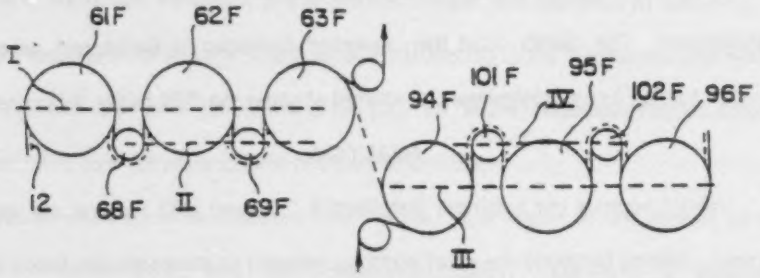


[2] Figure is Fig. 1 of Valmet's Patent No. 3,868,780. The web travels outside guide belt (heavy line) beginning at bottom left moving across to the right.

In 1981, a German patent application citing Soininen elaborated on the vacuum aspect of the Soininen invention. This Hauser application taught that it is more efficient to place individual suction devices within each of Soininen's perforated guide rolls, instead of using large walls to close off the entire space inside a guide belt. Hauser also emphasized benefits from moving the "suction guide rolls" closer to the heated drying cylinders to keep the web in contact with rolls or cylinders as much as possible. Although no patent issued, the Hauser application was published February 17, 1983. Beloit submitted only the German-language version of the Hauser publication to the patent examiner during prosecution of the two Beloit patents discussed below.

More recently, Beloit obtained patents on features of its "Bel-Champ" drying machine including patents No. 5,144,758 ('758 patent) issued September 8, 1992 from an application filed November 14, 1991, and No. 5,249,372 ('372 patent) issued October 5, 1993 from an application filed April 9, 1992. Basically, Beloit's patents claim a "single tier drying section" comprising "a first plurality of drying cylinders" with its own "dryer felt" and "vacuum rolls . . . in close proximity" to their adjacent drying cylinders, for drying one side of the paper web, followed by a second mirror-image section for drying the other side of the web. Beloit argues that 1) the single-tier design, 2) the use of vacuum rolls, and 3) the close proximity of the vacuum rolls to the drying cylinders

distinguish its invention from prior art dryer designs including Soininen and Hauser. Below is a figure from one of the Beloit patents.[3]



Valmet sued Beloit in the United States District Court for the Western District of Wisconsin alleging infringement of the Soininen patent, and to invalidate Beloit's '758 and '372 patents due to either anticipation or obviousness. Beloit counterclaimed for infringement. The district court granted summary judgment that Beloit had not infringed the Soininen patent, and that Soininen did not anticipate Beloit's patents. A four-part trial followed. Dealing first with validity, a jury found Beloit's patent claims not obvious, but found claim 3 of the '758 patent and claims 1 and 2 of the '372 patent indefinite and therefore invalid. As a result, only claims 1 and 2 of the '758 patent remained. The jury then found that Valmet infringed those two claims literally and (unnecessarily) under the doctrine of equivalents. In part three, the court ruled Beloit not guilty of inequitable conduct by failing to submit an English translation of Hauser to the patent examiner. Last, the jury found Valmet's infringement not willful, and awarded Beloit lost profits from Valmet's sale of an infringing drying machine in New Mexico.

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[3] Figure is Fig. 15 of Beloit's Patent No. 5,144,758.

After the verdict, the district court denied Valmet's motion for judgment as a matter of law ("JMOL") seeking to invalidate the first two claims of the '758 patent. Instead, the court granted Beloit's JMOL motion and overruled the jury's findings of indefiniteness. The district court then awarded damages to Beloit and granted an injunction barring future infringement by Valmet of either the '758 or the '372 patent.

ANALYSIS

Valmet appeals the judgment that Beloit's '758 and '372 patents are valid and infringed. Valmet contends the court erred by refusing to invalidate the Beloit patents on grounds of anticipation or obviousness, or to declare them unenforceable because of inequitable conduct. Valmet further argues that the district court miscalculated the damages awarded to Beloit, and improperly granted an injunction barring Valmet from infringing either patent in the future.

We turn to the conclusion that the subject matter of Beloit's patents met the statutory requirement of nonobviousness of 35 U.S.C. § 103 despite the teachings of the Soininen patent and the Hauser publication. The test for nonobviousness begins with a factual inquiry, and ends with a legal conclusion based on the resultant factual foundation. Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1595-97 (Fed. Cir. 1987). On appeal, we apply the clearly erroneous standard to the court's factfinding, and we review the legal conclusion de novo. Id.

With regard to the factual inquiry, no doubt exists that the Soininen patent and Hauser publication constitute prior art, and both Beloit patents cite the two documents as prior art references. The parties vigorously contest the district court's findings and

conclusions concerning the second component. The court performed this part of the inquiry when it answered the obviousness question in denying Valmet's JMOL motion. The court 1) construed the claims of the Soininen patent and identified its teachings, 2) construed the claims of Beloit's '758 and '372 patents, 3) found substantial differences between Beloit's claimed inventions and the prior art, and 4) ruled that Beloit's patents would not have been obvious in view of those differences.

Courts must construe disputed claim terms, as a matter of law, based on the claims, the specification, and the prosecution history. Markman v. Westview Instruments, Inc., 52 F.3d 967, 986 (Fed. Cir. 1995) (in banc), aff'd, 116 S. Ct. 1384 (1996). In reaching its decision, the district court focused on two aspects of the parties' competing drying sections. First, the district court examined Valmet's "drying cylinder group" with "two, substantially parallel, rows of drying cylinders," and compared it to Beloit's "single tier drying section" with two consecutive "pluralit[ies] of drying cylinders." The court found that Soininen taught a "stacked arrangement" of the two rows of cylinders, while Beloit's patents claimed a "single horizontally disposed plane of dryer cylinders" (emphasis in original). Essentially, the court read Soininen to teach only a sideways U-shaped (i.e., ⊃) arrangement where the first row dries one side of the web, then the web travels up to the second row which takes it back in the opposite direction to dry the opposite side. Meanwhile, the court construed Beloit's claims to refer to a machine that dries one side in the first plurality, then moves the web forward in a single plane into a second plurality to dry the other side. The court concluded that

"single tier" means single plane, and that unfolding Soininen's two rows into a single plane would not have been obvious.

Although the figures in Valmet's Soininen patent depict various stacked arrangements, nothing in the patent requires a stacked arrangement of the two rows of drying cylinders. On the contrary, the phrase "substantially parallel" explicitly encompasses parallel configurations in one plane or in two different planes. At the same time, nothing in Beloit's '758 or '372 patents requires an arrangement of the two pluralities of drying cylinders horizontally disposed in a single plane. Furthermore, Beloit's specifications and prosecution histories make it clear that the phrase "single tier" primarily serves to distinguish prior art "two tier" sections where the web traveled alternately around cylinders in two different tiers on two different planes. Thus, we hold that the district court incorrectly limited the teachings of Soininen, misconstrued Beloit's patents, and erroneously overstated the differences between the two inventions.

In the second phase of its comparison, the district court focused on Valmet's assertion that its Soininen patent in combination with the Hauser publication taught the use of vacuum or suction rolls that render the corresponding aspect of Beloit's invention obvious. The district court dismissed this argument largely based on Hauser's failure to obtain a patent on his invention, and the court noted the patent examiner's conclusion that Hauser had failed to invent anything new. Whether or not it describes a patentable invention, however, the Hauser publication undeniably teaches the use of suction boxes to create vacuum guide rolls. See, e.g., Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1572, 7 USPQ2d 1057, 1065 (Fed. Cir. 1988) (references for obviousness

not limited to issued patents). Beloit seeks to avoid the import of this by limiting its focus to figure 6 of Soininen, the one figure which may depict non-foraminous guide rolls. We see no reason to limit our analysis to figure 6. The whole of the Soininen patent teaches the use of foraminous guide rolls to facilitate suction through the surface of the guide rolls. Hauser then teaches the placement of individual suction boxes inside the foraminous guide rolls, rather than the use of walls closing off the entire space inside the guide belt, to create the vacuum. Hauser also states that it is known in the art to place the guide rolls close to the drying cylinders. The district court committed clear error by disregarding these teachings of Hauser.

Given our reading of the Soininen patent and Hauser publication, and our interpretation of the Beloit patents, we hold that a person of ordinary skill in the art would have found Beloit's claimed inventions obvious. Such a person would find it obvious to unfold Valmet's drying cylinder group into a straight line. Similarly, such a person would learn from Soininen the benefit of foraminous guide rolls with a vacuum, and from Hauser the advantage of individual vacuum sources inside the guide rolls. Accordingly, we hold both Beloit's '758 and '372 patents invalid under section 103. We further reverse the award of damages and vacate the injunction against Valmet.

REVERSED.

APPENDIX E

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

VALMET PAPER MACHINERY, INC.,
and VALMET-CHARLOTTE, INC.,

Plaintiffs,

v.

BELOIT CORPORATION,

Defendant.

OPINION
and ORDER

93-C-0587-C

In this civil action, plaintiffs Valmet Paper Machinery, Inc., and Valmet-Charlotte, Inc. (collectively, Valmet) sought damages from defendant Beloit Corporation for infringement of Valmet's U.S. Patent No. 3,868,780. Valmet also sought a declaration that Beloit's U.S. Patents Nos. 5,144,758 and 5,249,372 are invalid and not infringed by Valmet's sale of a paper making machine dryer section to APM Corporation for installation at APM's New Mexico facility. Beloit counterclaimed, seeking both a declaration that Valmet's '780 patent is invalid and damages for infringement of its own '758 and '372 patents by Valmet's APM machine. Before trial, I granted Beloit's motions for partial summary judgment, finding as a matter of law that Beloit had not infringed Valmet's '780 patent and that the '780 patent had

A copy of this document
has been mailed to the following:
Attys Butler & McAndrews
this 3RD day of April, 1995 by
J.M. Dye, Secretary to Judge Crabb

not anticipated either of Beloit's patents. (Beloit did not pursue its claim of invalidity of the '780 patent after the finding of non-infringement.)

A four-part jury trial was held in November 1994. At the conclusion of the first part, which was directed to the claimed obviousness and indefiniteness of claims 1, 2 and 3 of Beloit's '758 patent and claims 1 and 2 of its '372 patent, the jury found that none of the claims at issue was obvious, but that claim 3 of the '758 patent and claims 1 and 2 of the '372 patent were indefinite. At the conclusion of the second phase of trial, directed to the infringement of Beloit's '758 patent, the jury found that Valmet had infringed claims 1 and 2 both literally and by the doctrine of equivalents. In the third phase, which was tried to the court, I considered and rejected Valmet's contentions that Beloit had engaged in inequitable conduct by failing to supply the United States Patent and Trademark Office with an English translation of a prior art reference cited in its applications for the '758 and '372 patents. At the final phase of trial, the jury found that Beloit would have sold its own paper making machine to APM Corporation had Valmet not infringed Beloit's '758 patent, that Beloit was entitled to $7,875,000 in lost profits, of which $1,275,000 represented lost income on working capital, and that Valmet's infringement was not willful.

Presently before the court are (1) Valmet's motion for judgment as a matter of law or for a new trial and (2) Beloit's motions for judgment as a matter of law, entry of a permanent injunction, an order declaring this to be an exceptional case entitling Beloit to attorney fees

and costs, and an award of prejudgment interest.

I conclude that Valmet's motion for judgment as a matter of law or for a new trial must be denied because Valmet has failed to show either that no reasonable jury could have found as this one did or that mistakes were committed that require the granting of a new trial. I conclude that Beloit is entitled to judgment as a matter of law on the issue of indefiniteness, that it is entitled to the entry of a permanent injunction although not in precisely the form it has proposed, that it has failed to show that this is an exceptional case and that it is entitled to prejudgment interest on the total amount of the jury award from August 1, 1993 at a rate of 6%, compounded daily.

A. Valmet's Motion for Judgment as a Matter of Law or for a New Trial

1. Obviousness

Any party moving for judgment as a matter of law faces the daunting task of establishing that no reasonable jury could have rendered the challenged verdict. Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1547-48 (Fed. Cir. 1983); see also McGill, Inc. v. John Zink Co., 736 F.2d 666, 672 (Fed. Cir.) (to obtain reversal of judgment, movant must show that no reasonable juror could have interpreted claim so as to support finding of infringement) cert. denied, 469 U.S. 1037 (1984). The moving party's burden is compounded in patent cases by the evidentiary requirement that a party challenging an issued patent bears the

burden not only of establishing the invalidity of the patent but of doing so by clear and convincing proof. See, e.g., American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1359 (Fed. Cir.), cert. denied, 469 U.S. 821 (1984).

Undaunted, Valmet contends that no reasonable jury could have found from the trial evidence that claims 1 and 2 of Beloit's '758 patent are not invalid for obviousness. (Valmet confines its challenge to the two claims the jury found were not indefinite and for this discussion, I will do the same.) Indeed, it asserts that the claims at issue were rendered "hopelessly obvious" by its own '780 patent, read in conjunction with the European publication of Ludwig Hauser. Understanding Valmet's contention requires an understanding of the disclosures of the claims at issue.

Claim 1 of Beloit's '758 patent discloses a "single tier drying section for drying a web comprising a first plurality of drying cylinders; [and] a first plurality of vacuum rolls, each vacuum roll of said plurality of vacuum rolls being disposed below and between adjacent drying cylinders of said first plurality of drying cylinders and being disposed in close proximity thereto"; a second plurality of drying cylinders disposed downstream relative to the first plurality with its own vacuum rolls disposed above and between adjacent drying cylinders; each plurality of drying cylinders having generally horizontal axes of rotation, with the planes of the axes at different elevations. Claim 2 discloses a "single tier drying section as set forth in claim 1 wherein said plane is above said further plane." (Claim 3 discloses a single tier

dryer section in which each of the vacuum rolls has a diameter less than the diameter of the dryer cylinders; claim 1 of the '372 patent discloses a dryer apparatus for drying alternate sides of a web of paper, comprising a single tier dryer section that includes, among other things, a plurality of vacuum rolls, with each roll being of smaller diameter than the drying cylinders and being disposed between and below adjacent drying cylinders and being connected to a source of partial vacuum; claim 2 is dependent on claim 1 and adds that the plurality of vacuum rolls is arranged in such a way that the web is restrained against machine and cross-machine directional shrinkage during movement around the vacuum rolls.)

Valmet contends that its Soininen '780 patent anticipated the single tier configuration of claims 1 and 2 of Beloit's '758 patent and that Hauser's publication anticipated the '758's requirement of vacuum rolls located in close proximity to adjacent dryer cylinders. Valmet argues that Fig. 6 of the Soininen patent (shown below) is disclosed by claims 1 and 2 of the '758 patent. (The large circles represent dryer cylinders, the smaller circles are guide rollers and the line represents the felt. I have added an "X" to mark the point at which the web is transferred from one plurality of cylinders to the next.)

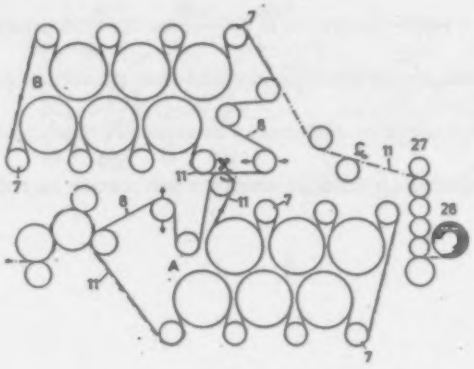

FIG. 6

Maintaining that Beloit is bound by its own definition of a single tier drying section in its '758 patent and "cannot rewrite history in order to prevail in this litigation," Valmet asserts that any reasonable juror would have found that cylinder group A of the Fig. 6 embodiment meets the '758 definition of a "drying section having sequential rows of dryers with the axes of rotation of the dryers in each row lying in a common plane," especially in light of the concession of Beloit's expert, Edward DeCrosta, that Fig. 6 shows the web contacting each dryer in one row before engaging any dryer in the second row. Valmet argues that together with the Hauser application's disclosure of suction rolls in place of guiding rolls, Soininen discloses every element of Claims 1 and 2 of the '758 patent, since it is undisputed that persons of ordinary skill in the art of paper making machinery design would know that vacuum rolls may be substituted for suction rolls.

Valmet's attack neglects much of the extensive evidence that was before the jury from which it could have construed the term "single tier" in Beloit's '758 patent as a single horizontally disposed plane of dryer cylinders. The jury could have found that the Valmet '780 patent did not teach a single tier system as defined by the '758 patent but a stacked arrangement with a substantial overlay of the dryer cylinders in the vertical planes. It is true that DeCrosta admitted that Soininen describes an arrangement that sounds like the '758 invention to the extent it describes a machine in which the web contacts each dryer in one row

before engaging any dryer in the second row. However, DeCrosta also testified that in his opinion the embodiment shown in Soininen Fig. 6 was a double tier drying section: "A tier for me is a horizontal row of elements -- rolls, dryers or whatever." Tr., 4-A-83. Fig. 6 shows two pluralities of dryer cylinders, each in a stacked position, rather than horizontally disposed, with the transfer point between the two stacks. Moreover, in the '780 patent specification, Soininen himself described the dryer cylinders as "frequently placed in two rows one above the other," with "the web travel[ing] along a zigzag path alternatively under the lower cylinders and over the upper cylinders." '780 pt., col 1, lines 9-12.

In contrast to the stacking configuration shown in Soininen, Beloit's '758 patent specifies the pluralities of dryer and vacuum cylinders as horizontally disposed. For example, lines 5-9, col. 8, read: "[T]he first plurality of dryer cylinders are disposed substantially horizontal in series. The second plurality of dryer cylinders are disposed substantially horizontal in series following the first plurality of dryer cylinders." All of the embodiments shown in the patent depict horizontally disposed pluralities. See, e.g., Fig. 15 below.

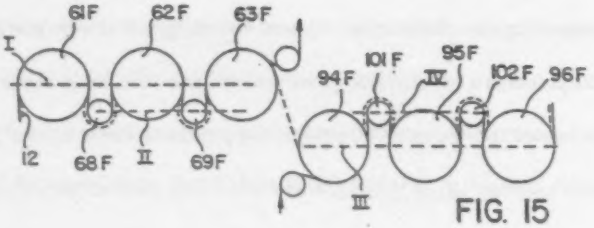

FIG. 15

It was not unreasonable for the jury to construe the phrase "single tier" as a single horizontally disposed plane of dryer cylinders that is not made obvious by the stacked dryer cylinders shown in Fig. 6 of the Soininen '780 patent.

Although Hauser taught the idea of modifying Soininen's patented invention by adding suction rolls in close proximity to the dryer cylinders, the jury could have found reasonably that combining his teachings with Soininen's did not make the '758 invention obvious. Persons skilled in the art would not have known necessarily from the combined teachings that adding suction rollers placed in close proximity to the dryer cylinders of the convoluted configuration shown in Fig. 6 would produce an alternating single tier drying section that solved the problems of flutter and restraint in the manner Beloit's '758 and '372 patents did. The patent examiner who rejected Hauser's application was not persuaded that Hauser had disclosed any patentable invention; rather, he concluded that Hauser had merely "re-invented" the machine Beloit's employee, Goodwillie, had invented years before. Valmet's arguments of the obviousness of Hauser plus Soininen are an example of creative hindsight reconstruction of prior art references that the jury was entitled to find unconvincing.

In determining non-obviousness, the jury was obligated to view the invention claimed in Beloit's '758 patent as a whole, taking into account the differences between that invention and the one claimed in Valmet's '780 patent, the problems solved by the '758 invention, its properties and purpose. In re Wright, 848 F.2d 1216, 1219 (Fed. Cir. 1988); Hodosh v.

Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5 (Fed. Cir.), cert. denied, 479 U.S. 827 (1986). The jury was entitled to give weight to "secondary considerations." Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966) (as indicia of obviousness, secondary considerations may have relevancy); W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1555 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (all evidence bearing on issue of obviousness must be considered and evaluated and secondary considerations may be the most pertinent, probative and revealing evidence available).

In this case, the jury heard evidence of the commercial success of the Beloit Bel-Champ® machine incorporating the inventions of the '372 and '758 patents; the copy of the Bel-Champ design by Valmet; and the long-felt need in the industry for a dryer section that achieved alternate side drying, minimized sheet flutter, reduced shrinkage, eliminated open draws, threaded the web automatically, tranferred the web from one section to another without open draw and accommodated higher speed. In addition, the jury had evidence of the lack of commercial success obtained by the invention claimed in Valmet's '780 patent and the machine's impracticality and inefficiency. The jury was entitled to consider the extent to which these obvious disadvantages would have put off or misled other inventors. United States v. Adams, 383 U.S. 39, 47-48 (1966) (known disadvantages in old devices that would discourage search for new inventions may be taken into account in determining obviousness); Gillette Co. v. S.C. Johnson & Son, Inc., 919 F.2d 720, 724 (Fed. Cir. 1990) (closest prior art

would probably have discouraged art worker from the combination claimed in patent); Leach v. Rockwood & Co., 273 F. Supp. 779, 789 (W.D. Wis. 1967) (fact that prior device is inoperative has bearing on what it teaches and what would be obvious in it), aff'd, 404 F.2d 652 (7th Cir. 1968).

The jury had ample evidence that the '780 patent covered a machine requiring walls and an enormous vacuum in order to achieve its stated purpose of keeping the web in contact with the felt in those areas in which the web would be subjected to extreme centrifugal force, that it would be inordinately difficult and expensive to build the embodiment shown in Fig. 6, given its vertically arranged dryer sections and the extended draws between sections, and that the patented machine had never been built or produced commercially. Even if the arrangement were reconfigured, as Valmet suggested would have been obvious to persons skilled in the relevant art, the result would have been a dryer section with a 48 foot vertical drop over its length. Another inventor, Keith Thomas, identified "a number of operating impracticalities" of the Soininen invention in his own patent (U.S. Patent No. 4,359,827; Valmet's exh. #105): the guide rolls tend to cause scuffing damage to the web; the capital costs are substantial because of the complexity of the system and the extra components it requires; operating costs are high; and because heat is applied to only one side of the sheet, the resulting product has different characteristics for each surface, causing printing problems when both sides of the paper are printed. Hauser himself pointed out some of the problems

inherent in Soininen's invention when he submitted his own application:

> One disadvantage of this known arrangement [Soininen's '780 patent] is that despite the . . . side walls and despite the high expenditure of energy for producing the vacuum, only a relatively slight vacuum can be produced in the guide rolls since a large amount of infiltrating air is drawn-in in the region of the return path of the dryer belt (from the last cylinder of the dryer group back to the first) where the dryer belt travels without the web of paper.

Valmet's exh. #5 at 5-6. Even Valmet's former president, Matti Kankaanpaa, testified that the Soininen vacuum would be "probably too difficult to apply, especially in existing machines . . . ." Tr., 2-B-35.

Finally, during the entire time Soininen's idea was known to Valmet, none of the company's skilled engineers saw the obviousness of the reconfiguration of Fig. 6 into the kind of horizontally disposed dryer sections disclosed in Beloit's patents. Indeed, no one in the company built on the idea Soininen disclosed in his patent. The criticisms leveled at the '780 invention and the lack of any development of the idea are strong indications that the claims in that patent did not make the successful Bel-Champ machine obvious to persons of ordinary skill in the art of paper making machinery design.

It was not error for the jury to assess Valmet's arguments of the obviousness of the invention claimed in Beloit's '758 patent as having been formulated with the benefit of hindsight afforded by Beloit's advances. W.L. Gore, 721 F.2d at 1553 (warning against the "insidious attraction of the siren hindsight"). The jurors acted correctly in rejecting those arguments. I conclude that Valmet has failed to show that no reasonable jury could have

found in favor of Beloit on the issues of obviousness.

The standard for obtaining a grant of a new trial is a far less demanding one than the standard for an award of a judgment as a matter of law, but it does require a finding that the jury's verdict is against the clear weight of the evidence. New Idea Farm Equipment Corp. v. Sperry Corp., 916 F.2d 1561, 1565 (Fed. Cir. 1990) (citing Shatterproof Glass Corp. v. Libbey-Owens Ford Co., 758 F.2d 613, 626 (Fed. Cir. 1985)). A motion for a new trial is one directed to the discretion of the court, which has authority to set aside a verdict even though there is substantial evidence to support it, if left with the firm conviction that a mistake has been committed. 11 Charles A. Wright & Arthur R. Miller, Federal Practice & Procedure: Civil, § 2806 at 44, 49 (1973); Railroad Dynamics v. A. Stucki Co., 727 F.2d 1506, 1512 (Fed. Cir.), cert. denied, 469 U.S. 871 (1984). I have no such conviction about the jury's verdict on obviousness. Therefore, I will deny Valmet's motion for a new trial on this issue.

2. Trial court errors

As a second ground for the granting of a new trial on the issue of obviousness, Valmet cites what it contends are errors made in evidentiary rulings at trial, specifically, the court's refusal to admit any evidence that Soininen had intended that the guide rolls in Fig. 6 of the '780 patent would be foraminous (perforated) and that a vacuum would be created in the space within the felt loop of the cylinder group shown in Fig. 6. The exclusion of this

evidence left Valmet with no foundation for introducing a three-dimensional model of cylinder group A in Fig. 6 of the Soininen'780 patent that was intended to demonstrate how the patent would operate. Valmet takes issue with another decision as well: the exclusion of Mauri Soininen's deposition testimony and related exhibits, which it contends would have demonstrated to the jury that a person of ordinary skill in the art would have found it obvious from Valmet's '780 patent to design a single tier dryer without folding the tiers.

Valmet argues first that it should have been allowed to show that Soininen specified foraminous rolls for guide rolls in each of the pictured embodiments of the invention, including Fig. 6. Because this position was hotly contested at trial and is important to an evaluation of the fairness of the outcome, it merits some extended discussion.

In an opinion issued October 27, 1994, directed to Valmet's claim that Beloit had infringed Valmet's '780 patent by building and selling four Bel-Champ paper making machines, I held that Beloit was entitled to summary judgment because Valmet had failed to come forward with proof sufficient to put its claim into dispute. I held that Beloit's Bel-Champ machines do not infringe because they do not have walls closing the open sides of the drying belt to define a closed space inside the belt in which a vacuum is arranged, as specified by the Soininen '780 patent. The Bel-Champ uses vacuum guide rollers that employ a vacuum established by extending a pipe through the end of each guide roller in such a way that one end of the pipe communicates with the space inside the guide roller and the other

end communicates with a vacuum source such as a fan. At the end of each guide roller is a structure that effectively caps it. Beloit refers to this structure as a "roll head."

I interpreted the walls limitation in claim 1 of Valmet's '780 patent as requiring structures that cover the entire open sides of the drying belt as well as the sides of the guide rollers, and I found that the caps on the Bel-Champ vacuum rollers are not their equivalent if they do not enclose both spaces. I rejected Beloit's argument that the term "walls" does not include the covers over the guide rollers, holding that the second objective of Valmet's '780 patent of keeping the web and felt in mutual contact by suction could not be met without establishing a vacuum within the guide rolls. Oct. 27, 1994 opin., dkt. #319, at 16.

In a second opinion and order entered on November 4, 1994, I held that the '780 patent did not anticipate Beloit's '372 and '758 patents. I acknowledged that the '780 patent teaches that it is preferable that the guide rollers used in Soininen's invention are foraminous, allowing the vacuum established within the walls to create a pressure differential between the interior and exterior of each roller, causing the web to be drawn by suction to the felt as the two pass around each roller. I held, however, that no reasonable reading of the '780 patent would lead to the conclusion that the guide rollers disclosed were the equivalent of the vacuum rollers shown in Beloit's '758 and '372 patents. The '780 guide rollers are passive structures from which air is evacuated indirectly because the rollers lie inside a larger area in which a vacuum is maintained, whereas the '372 and '758 vacuum rollers are active structures

from which air is evacuated directly by means of a vacuum source connected to each roller. Nov. 4, 1994 opin., dkt #392, at 7, 11. In the Nov. 4 opinion, I had no reason to address the argument Beloit made at the start of trial that Soininen's walls limitation did not apply to Fig. 6 of the '780 patent and that Soininen did not teach the use of walls, vacuum and vacuum rolls in the embodiment shown in Fig. 6.

When Beloit objected to Valmet's exhibit nos. 168 and 169 before the trial began, I ruled that Valmet could not use either an exhibit that was colored so as to suggest that Fig. 6 of the Soininen patent incorporated vacuum rollers (exh. #169) or introduce a mechanical model of a Soininen dryer section (exh. #168). I held that although Soininen had stated that generally foraminous rollers were preferred, Fig. 6 showed no such guide rollers. Unlike the guide rollers shown in Figs. 2, 3, 7 and 8 of the '780 patent, the rollers in Fig. 6 carry no symbols of vacuum or transverse flow. The absence of such symbols is striking in a patent in which the draftsman took such obvious care to depict the rolls in other figures as foraminous or as designed for transverse flow. In addition, Fig. 6 is devoid of any reference to walls and of any indication how or where a vacuum would be introduced. It is not credible that a person skilled in the art could have worked out the placement of an effective vacuum and walls for an embodiment such as that shown in Fig. 6.

The prosecution history shows that the inventors were limited in their invention to the embodiments in which transverse flow guide rolls and evacuation were depicted. I concluded

that it would be misleading to imply to the jury through the use of exhibits 167 and 168 that Soininen did use vacuum rolls in the embodiment shown in Fig. 6 or even that Soininen specified foraminous rollers in this particular embodiment for which Hauser's suction rolls cold be substituted. The model (exh. #168) was misleading in other respects as well: it did not demonstrate the true size of the vacuum source that would be necessary for a real dryer section to run, and it implied, without foundation, that an entire dryer section could be built successfully following Soininen's suggested embodiment.

Even if the decision to exclude these two exhibits was erroneous, it did not have any significant effect on the outcome of the trial. Although Valmet was barred from arguing that Soininen had shown foraminous rollers in Fig. 6, it had ample opportunities to argue that Hauser had shown the addition of suction rollers to the Fig. 6 embodiment and to argue to the jury how this would have produced an invention coming within the claims of Beloit's '758 patent.

In other pretrial actions, I ruled that Valmet could not introduce into evidence the deposition testimony of Mauri Soininen. I determined that a large portion of the testimony was either given in response to leading questions or lacked proper foundation or was cumulative of the testimony of other witnesses. To the extent the testimony was not cumulative, it tended to enlarge impermissibly on the teachings of the patent. Given these problems and the potential confusion to the jury of suggesting that the inventor's post-

expiration view of the patented invention should be given more weight than the actual claims of the patent, the testimony was not allowed.

Although Valmet has devoted many pages of its post-trial briefs to challenging these evidentiary rulings, I am not convinced that they were erroneous or that if they were, that the error is of such a nature as to require a new trial. Therefore, Valmet's motion will be denied as it relates to its assertions of the obviousness of claims 1 and 2 of Beloit's '758 patent.

3. Infringement

a. Literal infringement

Valmet attacks the jury's finding of infringement, arguing that the vacuum rolls of the APM machine are not in close proximity to their adjacent drying cylinders. According to Valmet, the term "close proximity" is defined in the '758 patent only by result, that is, the vacuum rolls and dryer cylinders are to be spaced so as to make the draw between the two minimal and thereby inhibit any tendency of the web to flutter. But the APM machine cannot flutter, Valmet maintains, simply because of the slow speeds at which the machine operates and the weight of the web (liner board) being transported; therfore, the baseline for determining "close proximity" is non-existent and there is no way to determine whether the APM machine infringes. Valmet's argument fails because the jury could have found, reasonably, that the reason the APM machine inhibited flutter was not just the machine's slow

speed and heavy web but its incorporation of the patented Beloit design. The jury heard evidence that Valmet had reduced the draw for the APM machine to what it believed was the closest safe distance ("close proximity"), that liner board is not immune from the forces that cause flutter, and that the machine was designed to run at fast speeds and was capable of doing so. Although Matti Kankaanpaa testified that the APM machine operated slowly, Kankaanpaa was Valmet's former president and therefore not a disinterested witness. Moreover, he had retired from Valmet before the APM machine had been designed or built. The jury may have found his testimony unpersuasive in view of his alignment with Valmet and his admitted lack of familiarity with the APM machine and its design speed. I conclude that Valmet has failed to show that no reasonable jury could have found literal infringement by the APM machine. The verdict is not against the clear weight of the evidence.

b. Infringement by the doctrine of equivalents

Valmet has failed to show that the jury had insufficient evidence on which to find that Valmet had infringed Beloit's patents under the doctrine of equivalents. Essentially, Valmet makes the same argument that the APM machine does not rely on minimal draw length to inhibit flutter because it does not need to, given the slow operating speed of the machine and the weight of the liner board. The jury was entitled to disbelieve this argument in deciding infringement by the doctrine of equivalents just as it did in deciding literal infringement.

Valmet's motion for judgment as a matter of law or for new trial will be denied on the issue of infringement.

4. Inequitable conduct

At trial, Valmet presented evidence of what it contends was inequitable conduct by Beloit. I found the evidence unpersuasive; Valmet contends that I erred in reaching that conclusion and that I failed to make sufficient findings to permit the ruling to be appealed.

Valmet argues that it established inequitable conduct in two entirely separate respects. First, it proved that when Dirk Veneman, Beloit's patent counsel, and David Archer, Beloit's patent agent, submitted a copy of the German Hauser patent application to the patent office, they did not submit an English translation of the application that they had in their possession at the time. Second, Valmet argues that it proved that Veneman made a misleading statement on two separate occasions in applications for expedited handling (Petitions to Make Special), filed in connection with both of the patents at issue. The allegedly misleading statements are Veneman's declarations that he had good knowledge of the pertinent prior art, when, according to Valmet (1) he had not read or even looked at each of the more than forty prior art references he submitted to the patent office in the Information Disclosure Statements and (2) he could not have read the Hauser application because he cannot read

German.

Although Valmet argues that it was error to find no inequitable conduct on Beloit's failure to supply the English translation of Hauser, it does not seek reconsideration of this issue. However, it does maintain that I failed to rule on its second asserted instance of inequitable conduct and that it is entitled to judgment in its favor on this ground. I am not convinced that Valmet made it clear at trial that it was raising two separate grounds, but for the record, from the evidence adduced at trial I make the following findings of fact on the second alleged ground for a finding of inequitable conduct.

Findings of Fact

In two Petitions to Make Special, one filed on February 6, 1992 in connection with the application for what became the '758 patent, and one filed on April 8, 1992 in connection with the application for what became the '372 patent, Beloit's chief patent counsel, Dirk Veneman, declared under oath that he had a good knowledge of the pertinent prior art. Before 1992, Beloit had filed a number of applications for patents on various aspects of dryer sections, had made many prior art searches and had been subjected to examination by the United States Patent and Trademark Office and foreign patent authorities. Both the '758 and the '372 patents were the subjects of extensive prosecutions. When Beloit filed its applications for the '758 and '372 patents, it submitted the pertinent prior art that it had

learned of as a result of the prosecution of the related applications and from other sources.

When Veneman made his declarations, he had never read the Hauser application; he had in his possession only the original German version and he did not read German. However, in February 1992, he had reviewed the drawings in the Hauser application and had reviewed the application with Beloit's outside patent counsel and compared it with Beloit's own Goodwillie patent in preparation for litigation with Hauser's employer, Voith, GmbH. Veneman did not re-read all of the prior art references immediately before he made his declarations in February and April 1992, but he was familiar with all of the art cited.

Veneman's declarations were neither misleading nor false. He did have a good knowledge of all the prior art when he made his declaration.

Conclusion

In the absence of any showing that Veneman made false or misleading declarations to the patent office, I conclude that Valmet has failed to prove clearly and convincingly its second alleged ground for a finding of inequitable conduct.

5. Indefiniteness

At the end of the validity phase of the trial, the jury returned a special verdict in which it found that Valmet had proved by clear and convincing evidence that claims 1 and 2 of

Beloit's '372 patent and claim 3 of its '758 patent were indefinite but that Valmet had failed to make such a showing with respect to claims 1 and 2 of the '758 patent. Valmet contends that these special verdicts are inconsistent and irreconcilable and require the granting of a new trial. Belatedly, in its brief in opposition to Beloit's motion for judgment as a matter of law on this issue, Valmet notes that it moved for judgment as a matter of law before the verdict went to the jury, thereby preserving its right to seek judgment as a matter of law at this time.

In its own motion for judgment as a matter of law on this issue, Beloit argues that the court should enter judgment in Beloit's favor on all the questions relating to indefiniteness because it is clear from the answers and the claims to which they related that the jury based its findings of indefiniteness not on "close proximity" but on cylinder sizes, an issue that was not argued to the jury. In addition, Beloit challenges Valmet's right either to ask for a new trial when it failed to raise the alleged error before the jury was discharged or to seek judgment as a matter of law now when it failed to do so within 10 days of the date of entry of judgment.

In determining a procedural question in a patent case such as whether a party waives its right to seek a new trial on the basis of an inconsistent verdict if it fails to alert the court to the alleged inconsistency while the jury is still empaneled, a district court is to look to the law of the regional circuit within which it is located. Delta-X Corp. v. Baker Hughes Production Tools, Inc., 984 F.2d 410, 412 (Fed. Cir. 1993) (citing Biodex Corp. v. Loredan Biolmedical, Inc., 946 F.2d 850, 858 (Fed. Cir. 1991), cert. denied, 112 S. Ct. 2957 (1992)).

In this instance, doing so does not elicit any guidance because the Court of Appeals for the Seventh Circuit has never had occasion to address the particular question raised by Valmet's omission. However, it is unnecessary to reach that question or the related one, which is whether Valmet can move for judgment as a matter of law more than 10 days after entry of judgment. I am convinced that it is the jury's finding of indefiniteness that is unsupported by any evidence and must be corrected, rather than its finding that claims 1 and 2 of the '758 patent are not indefinite.

Beloit argues convincingly that the jury must have been considering cylinder sizes when it found claim 3 of the '758 patent and claims 1 and 2 of the '372 patent indefinite. No other explanation can be made for the jury's answers. Claims 1 and 2 of the '758 patent contain no reference to cylinder sizes; all the other claims do. Valmet admits that it never challenged the indefiniteness of any claims as they concerned the relative sizes of the dryer and vacuum cylinders and that it does not do so now. However, Heikki Ilvespaa, a Valmet employee, testified that he could only estimate the size of the vacuum rolls in Beloit's proposed machine as having diameters somewhere between 20 and 24 inches. Tr., 6-A, at 103. This testimony could explain the jury's decision to find the claims that included references to cylinder sizes indefinite.

The answers to the special verdict questions are not inconsistent because the three claims the jury found indefinite each contain the additional limitation relating to the size of

the vacuum rolls and dryer cylinders, but the findings of indefiniteness are not supported by any substantial evidence. Valmet concedes that it did not argue the indefiniteness of the cylinder sizes or make any effort to introduce evidence on cylinder size but instead based its challenge to the claims solely on the alleged indefiniteness of the words, "close proximity." Because I am convinced that the jury found indefiniteness only because it believed a person of ordinary skill in the art would not understand what sizes the cylinders should be and because there was no evidence to support such a finding and ample evidence to the contrary, I will enter judgment as a matter of law for Beloit on this issue. Doing so does not require a new trial on damages: the award would not have been any different had the jury been considering both infringed patents or just the '758 patent, since both related to the same machine.

6. Damages

At the end of the trial, the jury determined that Beloit would have made the sale of the APM machine had it not been for Valmet's infringement of Beloit's '758 patent and awarded Beloit $7,875,000 in lost profits of which $1,275,000 represents lost income on working capital. Valmet attacks the award on several grounds: Beloit failed to prove a reasonable probability that its total lost profits would have been over $7,000,000 because it failed to prove that APM would have paid Beloit as much as Beloit claimed; there is no legal authority

for an award of lost income on working capital; lost interest on working capital is simply a subterfuge to avoid the principle that prejudgment interest does not start to accrue until there is actual infringement by an operable structure; and even if there could be a valid claim for lost interest on working capital in certain situations, Beloit offered nothing but speculative evidence in its attempt to prove it suffered such a loss in this instance.

a. Lost working capital

Valmet asks the court either to vacate the jury verdict awarding Beloit $1,275,000 in lost income on working capital or order a new trial on this issue. Valmet's motion raises a threshold issue because the record does not show that Valmet made a motion for judgment as a matter of law before the recoverability of lost working capital issue was submitted to the jury. Beloit contends that Valmet's omission forecloses it from moving now for judgment on this issue.

This circuit has taken a liberal view of motions for judgment as a matter of law. See, e.g., Benson v. Allphin, 786 F.2d 268 (7th Cir. 1986). "[S]omething less than a formal motion for a directed verdict" suffices to preserve a party's right to move for judgment notwithstanding the jury's verdict when the motion is based solely on a question of law. Id. At 274. However, the 1991 amendments to the Civil Rules suggest that this liberality is to be discouraged:

> revision [imposing requirement that the moving party articulate the basis on which a judgment as a matter of law might be rendered] thus alters the result in cases in which courts have used various techniques to avoid the requirement that a motion for a directed verdict be made as a predicate to a motion for judgment notwithstanding the verdict. E.g., Benson v. Allphin, 788 [sic: 786] F.2d 268 (7th Cir. 1986).

Fed. R. Civ. P. 50 advisory committee's note, 1991 amendment. A fair reading of this statement in light of the purposes of Rule 50, the exigencies of trial, and the ease of appellate review is that the party moving for judgment as a matter of law after trial must have made known to the court and opposing counsel the reasons it believed its opponent's case was insufficient while there was still time for opposing counsel to repair any evidentiary omission.

> In no event, however, should the court enter judgment against a party who has not been apprised of the materiality of the dispositive fact and been afforded an opportunity to present any available evidence bearing on that fact . . . . [purpose for requirement that motion for judgment as a matter of law be made before the close of trial] is to assure the responding party an opportunity to cure any deficiency in that party's proof that may have been overlooked until called to the party's attention by a late motion for judgment.

Id. However, these concerns are not present when the moving party argues, as Valmet does, that the facts are irrelevant because the law does not permit recovery for lost interest on working capital under any circumstances.

In any event, it makes little difference whether Valmet is barred from seeking judgment as a matter of law on this issue by its failure to move for judgment as a matter of law before the close of evidence because I would deny the motion. I am convinced that lost interest on working capital is an appropriate item of damages, if properly substantiated. The framework

for Beloit's claim is that paper making machines are so specialized and involve such large commitments of resources from the manufacturer that it is the custom in the industry for the buyer to make large periodic payments on the purchase price in advance, rather than paying for the machine after it has been delivered and installed. It is also the custom that these payments are not tied to contract progress but are made according to a schedule set by the parties at the time of contracting. In the early stages of the manufacturing process, the manufacturer receives incoming payments before it incurs the variable labor and material expenses related to making the machine and can invest the money to produce income until it is needed. Assuming for now that Beloit proved what it would have been able to earn on the advance periodic payments, I see no reason why Beloit could not recover for lost interest on working capital, just as it should be able to recover for any other loss that Valmet caused. It is true that Beloit has not found a case holding that lost interest on working capital can be recovered from a tortfeasor, but Valmet has presented no authority to the contrary.

Valmet argues that lost interest on working capital cannot be awarded because doing so would circumvent the legal rules limiting the award of prejudgment interest to the period running to the date of judgment (November 28, 1994) from the date of infringement, that is, according to Valmet, the day the infringing device is operable and ready for use. As Valmet calculates it, the date on which prejudgment interest should begin to run is the date of full operation, which in this case was April 30, 1994, the approximate day the APM machine was

began running. Beloit's position is that it is entitled to interest on the working capital it would have received from September 8, 1992, the date Beloit's '758 patent issued and coincidentally, the date APM and Valmet entered into the agreement for the purchase of the paper machine, to August 1993, the date Beloit postulates it would have delivered the machine to APM. Because I view the claim for lost interest on working capital as a legitimate item of damages, I do not interpret Beloit's request as a stratagem for avoiding the usual constraints on prejudgment interest.

Whether Beloit adduced sufficient evidence to support the jury's finding is a question that Valmet can raise only on a motion for new trial. Although there is some question whether Valmet is barred from seeking judgment as a matter of law on the legal basis for Beloit's lost income on working capital claim, it is clear that Valmet's failure to move before the close of trial for judgment as a matter of law on the sufficiency of the evidence in support of Beloit's claim bars it from making such a motion after trial. Therefore, I evaluate Valmet's challenge under the standards applicable to the grant of a new trial: whether the jury's damages verdict is against the clear weight of the evidence.

Valmet characterizes Beloit's evidence of its lost interest on working capital as speculative, without acknowledging that its own wrongful acts deprived Beloit of the opportunity to negotiate a contract with APM free from competition from an infringing machine. It is impossible to know with certainty what APM would have agreed to had Beloit

been the only company offering the alternating single tier technology, but Beloit cannot be penalized for a lack of evidence occasioned by Valmet's unlawful actions. Lam, Inc. v. Johns-Manville Corp., 718 F.2d 1056, 1065 (Fed. Cir. 1983) (risk of uncertainty should be borne by wrongdoer and not by injured party). The jury was entitled to make its best estimate of what Beloit would have negotiated and what it would have received had Valmet not engaged in its infringing activities.

The jury heard all of Valmet's arguments, its evidence, and its cross-examination of Beloit's witnesses and concluded that Beloit's evidence was more credible. I cannot say that it erred in this conclusion. The evidence showed that APM wanted Beloit's technology; it is the custom in the industry to negotiate for advance periodic payments of working capital; and Valmet received an advance payment. Valmet argues that the evidence showed that APM rejected Beloit's only bid containing a progress payment provision before it had received any bid from Valmet. However, the jury was free to believe that APM would have come back to Beloit and acceded to Beloit's terms had it not had the option of buying the same technology from Valmet.

Valmet argues that neither the law nor the evidence supports an award of lost interest on working capital for the period from April 1, 1992 until September 8, 1992, when the patent issued. Beloit does not contest this point, see Beloit's Brief in Opposition to Valmet's Motion for Judgment as a Matter of Law, dkt. #549, at 83, but argues that the jury's verdict

does not include any award for the disputed period. The jury was instructed that infringement could not occur until a patent issues (September 8, 1992); the court must assume the jury followed the instructions it was given; and the jury's decision to discount by $200,000 the amount Beloit asked for as lost interest on working capital indicates that it did follow the instructions. I cannot say with conviction that the jury disregarded its instructions and erred in awarding Beloit $1,275,000 for lost interest on working capital.

b. Lost profits

Valmet contends that Beloit adduced no substantial evidence in support of its claim for lost profits. This contention can be disposed of with dispatch: it is nothing more than a rehash of the arguments Valmet made to the jury, which the jury rejected. There was sufficient evidence from which to find that Beloit had incurred damages representing lost profits of $6,600,000 ($7,875,000 less $1,275,000 for lost interest on working capital). Valmet adds that the damage claim included a component that was without any basis whatsoever: the intercompany profits Beloit's affiliated company would have made from sales to Beloit. I agree with Valmet that the evidence did not support this claim, but this does not change my opinion about the validity of the jury's damage verdict. There is no reason to believe that the jury found the evidence on this point any more persuasive than I did and therefore, no reason to believe that it included any of these intercompany "profits" in its

damage determination. It could have found $6,600,000 in lost profits without including the intercompany charges. I presume that it did so.

B. Beloit's Motion for an Injunction

Beloit seeks a permanent injunction to enjoin Valmet from future infringement of Beloit's '758 patent. Valmet makes a pro forma objection to the idea of an injunction, asserting that it has taken steps to avoid infringing and will continue to do so, but it saves its energy for objections to the form the injunction will take. I have no doubt that an injunction should issue. Despite Valmet's assertions of its good faith and efforts not to infringe, the fact is that Valmet continued its infringing activities after this suit was brought and after it knew that a jury had found the '758 patent not invalid in a previous case involving Beloit and Voith, GmbH.

Valmet's first objection to the form of permanent objection proposed by Beloit is directed to the provision that would enjoin Valmet from manufacturing, using, etc., any "paper-making machine having a dryer section that infringes said claim 1 or claim 2 or is the same as, or equivalent to, the dryer section of the [APM] machine" in Prewitt, New Mexico. Valmet contends that it is improper to prohibit the infringing equivalent of an adjudicated infringing device because such restraints are too broad and too vague to be enforced fairly. In response, Beloit cites KSM Fastening Systems, Inc. v. H.A. Jones Co., Inc., 776 F.2d 1522,

1525 (Fed. Cir. 1985), in which the Federal Circuit cited with approval the idea expressed in American Foundry & Manufacturing Co. v. Josam Manufacturing Co., 79 F.2d 116, 118 (8th Cir. 1935), that injunctions typically "carry a prohibition against further infringement . . . as to the particular device found to be infringement and as to all other devices which are merely 'colorable' changes of the infringing one." Construing "equivalent to" the APM dryer section as meaning a dryer section with only "colorable" changes, I see no reason not to make this requirement a part of the injunction. Valmet argues that the requested restraints will require it to make "legal leaps of faith concerning what may be 'an infringing equivalent' of the adjudicated infringing device," Valmet's Memorandum in Opposition to Beloit's Motion for a Preliminary Injunction, dkt. #547 at 8, but does not explain why it is more difficult to design around an equivalent machine than an invention disclosed in a patent.

Valmet makes more substantive objections to an injunction that would prevent it from using any part of the APM machine as a reference, even those parts that are separate from the dryer section and whose effectiveness is not dependent on the dryer section. Valmet argues that some of these parts are innovations that it should be able to show to prospective customers and discuss in sales literature. These include a "mini-fourdrinier," which is part of the forming section in the wet end of the machine, and a sleeve-belt press, which Valmet says has nothing to do with the dryer or with Beloit's '758 patent.

To the extent that Valmet's innovative contributions to the APM machine can be

evaluated independently of the dryer section, Valmet should not be enjoined from using them as references. However, it is Valmet's burden to establish that the infringing dryer section makes no contribution to the effectiveness of the particular part it wishes to use as a reference. Thus, for example, if Valmet can show that the performance of the mini-fourdrinier can be gauged without reference to the final liner board product, Valmet should be free to use it as a reference. On the other hand, if a prospective customer would consider the final product indicative of the performance of the mini-fourdrinier, Valmet cannot use the part as a reference. In that circumstance, the part's effectiveness cannot be evaluated independently of the dryer section and Valmet would be receiving the benefit of dryer section improvements it obtained improperly through infringement.

For the present, I will enjoin Valmet from using any part of its APM machine as a reference, subject to its showing that any one or more parts of the machine could be used as references without posing any risk that Valmet would benefit from the successful operation of the infringing aspects of the APM machine. If Valmet cannot obtain Beloit's agreement to the use of any part as a reference, it may seek an order from this court.

Under paragraphs 2, 4 and 6 of Beloit's proposed injunctive order, Valmet would be required to present to the court and to counsel for Beloit a drawing of any dryer section it proposed to sell that would have a top felted single tier section followed by a bottom felted single tier section. In addition, Valmet would be forbidden to provide any assistance,

information, repairs, spare parts or any other form of support for the continued operation of the APM machine in New Mexico and would have to provide quarterly reports to the court detailing the steps it has taken to comply with the terms of the order during the preceding quarter. Not surprisingly, Valmet objects to the scope of the proposed order.

Requiring an infringer to advise the court and counsel for its competitor of commercial proposals is an unusual condition to be included in an injunction. Beloit makes a strong argument for including such a requirement here because of the long lead time involved in the sale of one paper making machine. Two to three years could pass with large investments by manufacturer and customer before the patent holder would know of a potential infringer. Calling off a sale at that point would benefit neither Valmet nor its customers. Nonetheless, I am not convinced that imposing a condition of pre-offer approval is necessary to deter Valmet from offering an infringing machine to any of its customers. The long lead times and the high costs of paper making machinery work as much in Beloit's favor as against it, because they create an incentive for Valmet to avoid offering an infringing machine. Valmet would incur a greater economic loss than Beloit if it invested years and millions of dollars in a machine only to learn that it could not sell or install it and was subject to additional court sanctions because it had infringed Beloit's patents.

To impose a condition of pre-offer approval would be draconian, particularly in the unusual circumstances of the tiny and fiercely competitive paper making machine community

and in the absence of a finding of willfulness by the jury. If such a condition is to be imposed, the movant would have to make a far stronger showing of need than Beloit has made in this case. Cf. Spindelfabrik Suessen-Schurr v. Schubert & Salzer, 903 F.2d 1568 (Fed. Cir. 1990) (imposing condition of pre-offer approval on infringer after it had been held in contempt twice for violating a permanent injunction).

The most difficult question presented by Beloit's request for injunction is whether Valmet should be prohibited from selling spare parts and assisting in the continued operation of the APM machine. Valmet makes a persuasive argument that the jury has compensated Beloit for its loss of income from the sale of spare parts to APM, making it unnecessary and in fact, the equivalent of a double award, for Valmet to be enjoined from selling spare parts in the future. In other words, Valmet argues that the jury's damage award constitutes a license for which Valmet has paid by virtue of the judgment entered against it and under which it can continue to service and repair the APM machine and supply spare parts.

Neither party has cited any cases that shed light on this question. The cases cited by Valmet are inapposite. Stickle v. Heublein, Inc., 716 F.2d 1550 (Fed. Cir. 1983), concerned the propriety of issuing an injunction against the user of an infringing machine, in a case in which reasonable royalties were the measure of damages. King Instrument v. Otari, 767 F.2d 853 (Fed. Cir. 1985), addresses whether the patent holder had sufficiently proved that the spare parts would be sold with the infringed product so as to be able to recover damages for

the loss of sales of the spares. Finally, in Spindelfabrik Suessen-Schurr, 903 F.2d at 1574, the Court of Appeals for the Federal Circuit made a passing reference to a provision in the district court's order exempting restrictions for servicing and supply of spare parts for certain "previously identified machines dealt with" in a previous order but failed to explain the reason for the exemption. For its part, Beloit quotes an extensive passage from a district court opinion, Laitram Corp. v. Cambridge Wire Cloth Co., 229 USPQ 933 (D. Md. 1986), that does not appear to have been cited or followed by any other court.

I conclude that Valmet should be permitted to sell spare parts to APM because the jury has compensated Beloit for its estimated losses on these sales. (Beloit's suggestion that the jury made no award for loss sales is without any foundation in the record; Beloit's counsel argued to the jury the losses of future sales of spare parts.) Once Valmet has satisfied the judgment, it can sell spare parts to APM. However, because the jury has found Valmet liable for infringement, it should not be allowed to continue to contribute to that infringement by providing maintenance services, repairs or engineering consultation to the APM machine. Valmet has not argued that preventing it from providing such services or consultation will leave APM without recourse; I assume therefore, that APM has sources other than Valmet to take care of these needs.

Finally, I will include as part of the injunction the provision that Valmet report on its compliance, although twice a year for the life of the patent should be sufficient for monitoring

purposes. The same requirement has been imposed in another case in which Beloit was the prevailing party; it has proved to be a workable requirement.

C. Beloit's Motion for Attorney Fees

Beloit seeks an award of attorney fees, which requires a preliminary finding that this was an exceptional case meriting such an award, 35 U.S.C. § 285 (attorney fees may be awarded to prevailing party "in exceptional cases"), or that Valmet's counsel engaged in "vexatious litigation strategy," Beckman Instruments, Inc. v. LKB Produkter AB, 892 F.2d 1547, 1549 (Fed. Cir. 1989). Beloit has failed to show, clearly and convincingly, that this case was exceptional or that Valmet's counsel's litigation conduct was vexatious. Advance Transformer Co. v. Levinson, 837 F.2d 1081, 1085 (Fed. Cir. 1988) (finding that case is exceptional must be supported by clear and convincing evidence). Beloit is right to be annoyed over the last minute trip to Finland to take the useless deposition of Mauri Soininen, but it has been reimbursed for the costs of that trip, if not for the fees of counsel. It contends that the grant of partial summary judgment on infringement of Valmet's patent and Valmet's claim of anticipation demonstrates that these claims were meritless and that Valmet's failure to argue indefiniteness to the jury shows that it had abandoned this claim. Beloit's arguments fall far short of the clear and convincing evidence required to make out either an exceptional case or flagrant misconduct.

In a case as complex as this one, it is understandable that discovery disputes would arise. I cannot say that any of Valmet's delays in production were egregious or that Beloit did not cause similar delays in its own production. Valmet deserves no kudos for producing Rule 30(b)(6) witnesses who were uninformed on much of the subject matter of their testimony, but this error falls short of establishing a strategy of vexatious litigation. As to the motions for partial summary judgment, I cannot say that Valmet's claims of infringement and anticipation were so lacking in merit as to justify a finding of litigation misconduct. Beloit characterizes those claims as "preemptive strikes," raised only to create bargaining leverage when it became clear that the APM machine was infringing. A competitor and adversary might well view them in that light; an objective observer would not. Finally, Beloit's conclusion that Valmet had abandoned its allegations of indefiniteness is not the conclusion drawn by the jury, which found for Valmet on that ground on three of the five claims at issue.

It is difficult for a prevailing party to demonstrate that a case is exceptional and almost impossible to do so in the absence of a finding of willfulness. Beckman Instruments, Inc., 892 F.2d at 1552 ("We are aware of few cases in which a patent owner has been granted attorney fees solely on the basis of litigation misconduct, without a concurrent finding of willful infringement."). I am not convinced that Beloit has shown Valmet to be guilty of extraordinary litigation misconduct so as to warrant the unusual finding of exceptionalness without the predicate finding of willfulness. Therefore, Beloit's motion for an award of

attorney fees will be denied.

D. Beloit's Request for Prejudgment Interest

Beloit and Valmet disagree about both the scope and rate of prejudgment interest. Beloit contends that prejudgment interest should apply to its lost income on working capital as well as to the remainder of the lost profits award. It contends that prejudgment interest should be calculated from August 1, 1993, the day it would have lost the benefit of the working capital and its lost profits claim would have become fixed, with its receipt of the last payment from APM. Finally, it argues that the interest rate to be applied should be either 16%, the rate set in Valmet's contract with APM, or 12%, which is the amount set by the Wisconsin statutes. Valmet contends that awarding prejudgment interest on top of the lost income on working capital award would be duplicative, that prejudgment interest should not start to run until the date of infringement, which is the date the APM machine went into operation (approximately April 30, 1994), and that the rate should be no more than 5.7%, which is the average rate at which Beloit could have borrowed money from a commercial lender during the period in question.

In an earlier case involving Beloit's '758 patent and a different competitor, Voith GmbH, Case No. 92-C-168-C, I held that any award of prejudgment interest would be duplicative of the jury's award of lost working capital as part of its award of a reasonable

royalty. In various rulings made during the course of this trial, I indicated that I continued to view prejudgment interest as duplicative of any award of lost income on working capital. It was for this reason that the jury was asked to specify in its special verdict on damages what portion of the lost profits award constituted lost interest on working capital. In reviewing this case, however, I am persuaded that the two concepts can be separated and that prejudgment interest can be applied to the award of lost income on working capital without multiplying the award impermissibly. Beloit has shown both that its working capital advantage would have come to an end and its lost profits would have become fixed on August 1, 1993, the date the machine would have been delivered to APM and payments would have stopped. Assuming as I do that the jury calculated Beloit's lost working capital damages properly, applying prejudgment interest to this figure from August 1, 1993 to the date of judgment would not be duplicating the original award of lost income on working capital.

But because August 1, 1993 was approximately eight months before the date the APM machine became operational, there remains a question whether it is appropriate to calculate prejudgment interest for any period before the APM machine was in operation. Although Valmet argues now that the machine could not have infringed until it was fully operational, it contended in the original complaint it filed in this case on January 26, 1993 that an actual controversy existed between it and Beloit regarding the infringement of the '758 patent. Valmet's contention supports the conclusion that the act of infringement occurred when

Valmet contracted for the sale of the infringing dryer section on September 8, 1992. 35 U.S.C. § 271; Paper Converting Machine Co. v. Magna-Graphics Corp., 745 F.2d 11, 16 (Fed. Cir. 1984) (meaning of "make," "use" and "sell" in § 271 was left by Congress to judicial interpretation). Valmet cites cases it contends mandate the conclusion that infringement does not occur until the machine has been put into operation and it can be determined with certainty that infringement has occurred, but the cases are inapposite. They do not relate to damage determinations, but to injunctions or questions of standing. See, e.g., Eli Lilley & Co. v. Medtronic, Inc., 915 F.2d 670 (Fed. Cir. 1990) (injunction); Lang v. Pacific Marine & Supply Co., 895 F.2d 765 (Fed. Cir. 1990) (same); Ecodyne Corp v. Croll-Reynolds Engineering Co., 491 F. Supp. 194 (D. Conn. 1979) (standing).

The purpose of awarding prejudgment interest under 35 U.S.C. § 284 is to afford patent owners complete compensation for their damages. General Motors Corp. v. Devex Corp., 461 U.S. 648, 655 (1983). If Beloit is awarded prejudgment interest from August 1, 1993 (the date on which its working capital advantage ceased and its lost profits became fixed), it will be put in as good a position as it would have been without the infringement. Id. (in typical case award of prejudgment interest is necessary to put patent owner in as good a position as he would have been had infringer entered into reasonable royalty agreement).

At one place in its brief, Beloit suggests that prejudgment interest should be applied to the mean of its working capital payments. I do not understand this request. If Beloit is

suggesting that it should receive prejudgment interest on its award of lost income on working capital for the period before August 1, 1993, its argument is inconsistent with the rest of its brief, in which it asserts (in words and charts) that prejudgment interest should run from August 1, 1993. Moreover, there is no reason to think that the jury did not take into account all of the income Beloit could have reasonably earned on its working capital advantage prior to August 1, 1993. If Beloit is suggesting that prejudgment interest should run on the mean of its lost income on working capital for the period August 1, 1993 until the date of judgment, it has not explained why the award should be discounted in this respect. My understanding is that as of August 1 Beloit would have received all of the advantage of its working capital and would have had in hand the full amount of the income generated from the investment of its working capital advantage. If so, it is entitled to prejudgment interest on that full amount. Valmet made no comment on this point; it may have been as mystified as I am by the request. Either side is free to raise this issue on a motion for reconsideration.

I turn then to the issue of the rate of prejudgment interest. Beloit wants 16%, because that is the amount specified in the APM-Valmet contract, but it is clear that the 16% in the contract is intended to be a penalty to inspire Valmet to perform its part of the contract in a timely fashion. Beloit's alternative 12% figure rests on the Wisconsin statutes, which are not necessarily an apt guide to the appropriate rate for a patent case in federal court. Beloit's fallback position is that it should receive its "cost of capital" rate, which its experts calculated

at 10.5% for their working capital calculations. For its part, Valmet wants the interest rate pegged at between 5.5% and 5.9%, which it contends is the rate at which Beloit was able to borrow money during the time in question. Rather than fix on any one of the four different options proffered by the parties, I believe the prudent course is to apply the prime rate in effect on August 1, 1993. It is an objective figure that can be readily ascertained and its use has been approved by the Federal Circuit in a number of cases. See, e.g., Uniroyal, Inc. v. Rudkin-Wiley Corp., 939 F.2d 1540, 1545 (Fed. Cir. 1991); Studiengesellschaft Kohel, m.b.H v. Dart Industries, Inc., 862 F.2d 1564, 1879-80 (Fed. Cir. 1988).

My research discloses that on August 1, 1993, two major midwestern banks, First Chicago and Continental, were quoting a prime rate of 6% (and, in fact, had been quoting the same rate since July 2, 1992 and would do so until about April 1, 1994). I am satisfied that 6% is an appropriate rate for determining prejudgment interest.

ORDER

IT IS ORDERED that

1. The motion of Valmet Paper Machinery, Inc. and Valmet-Charlotte, Inc., for judgment as a matter of law or in the alternative for a new trial is DENIED in all respects;

2. Beloit Corporation's motion for judgment as a matter of law on the jury's finding of indefiniteness with respect to claim 3 of Beloit's '758 patent and claims 1 and 2 of Beloit's

'372 patent is GRANTED and these claims are held not to be indefinite;

3a. Beloit's motion for an injunction is GRANTED and Valmet Paper Machinery, Inc. and Valmet-Charlotte, Inc., jointly and severally, and their officers, directors, affiliates, agents, servants, employees, and attorneys, and all those persons acting in concert with any of them who receive actual notice of this order by personal service or otherwise, are hereby enjoined until further order of this court or during the respective term of the patent in suit, from infringing (directly, contributorily, or by inducement) any one or more of claims 1, 2 and 3 of United States Letters Patent No. 5,144,758 and claims 1 and 2 of United States Letters Patent No. 5,429,372, including but without limitation, by manufacture, distribution, use, sale, importation into the United States, subassembly in the United States for distribution abroad, or any other activity that would have as its natural or intended purpose the manufacture, sale, or use of any paper making machine having a dryer section that infringes said claims or is the same as, or equivalent to, the dryer section of the Australian Paper Manufacturers McKinley Paper Co. Machine No. 1 installed by Valmet at Prewitt, New Mexico.

b. Within 30 days of this order, Valmet shall by written notice withdraw any bids previously submitted in the United States for the sale of any paper making machine dryer section that is the same as or equivalent to the dryer section of the APM machine.

c. So long as the infringing APM machine installed at Prewitt, New Mexico, falls within

the scope of any claim identified in paragraph 3(a) of this order, either directly, indirectly, or by equivalents, Valmet is hereby enjoined from providing, either directly or indirectly (such as by assisting others), information, technical or manual assistance, repairs, advice, or any other form of support, aid, abetment, or encouragement, for the continued operation of the machine, including, but without limitation, providing, either directly or through third parties, information, translations, lists, drawings, sketches, manuals, specifications, dimensions, workers for, the name or names of parties or suppliers with such information or materials, or any other activity or support that would aid any third party or APM in the continued operation, repair, maintenance or rebuilding of the infringing APM machine.

d. Valmet shall not make direct or indirect use of the APM machine in any sales, marketing, advertising or other similar activities including, but not limited to, sales presentations, brochures, magazine articles or delivery of technical papers without obtaining either the approval of Beloit or an order of this court in advance of any such use. Valmet shall not show or use the APM machine as a reference machine or otherwise show the APM machine to customers or potential customers without obtaining either the approval of Beloit or an order of this court in advance of such showing or use.

e. On April 1 and October 1 of each year during the pendency of this injunction order, Valmet shall file with the clerk of court under oath signed by one responsible official of each of the two Valmet companies, a written report of compliance (with a copy to house patent

counsel for Beloit), detailing the steps Valmet has taken during the preceding half-year period to comply with the terms of this order and acknowledging specifically that there has been no violation of the terms of this order or detailing any violation and the reason or reasons therefore.

f. This court shall retain jurisdiction of this action for the purpose of enforcing this order.

4. Beloit's motion for a declaration that this is an exceptional case and for an award of attorney fees is DENIED; and

5. Beloit is awarded prejudgment interest on the jury's monetary award or $7,875,000 for the period August 1, 1993 through November 28, 1994 at the rate of 6%, compounded daily.

Entered this 3d day of April, 1995.

BY THE COURT:

Barbara B. Crabb

BARBARA B. CRABB
District Judge